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Savings Bank Investments, 1922 - 1931

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SAVINGS BANK INVESTMENTS,

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PREFACE.

This thesis is the outgrowth of the author's interest in the field of investment as related to the fields of money and banking. As first conceived the problem embraced the subjective tests of investment advanced by the various students of investments and the operation of these principles during a period of falling prices such as existed after 1921. Because of the difficulties involved in selecting the tests to be discussed, the more concrete tests of investment offered by state legislation for various financial agencies attracted attention. The savings bank laws for investment of deposits were finally chosen as the base of discussion.

The author hopes that this study will form the groundwork upon which a further study of the savings bank movement covering several decades will evolve.

Thanks are due to the heads of the banking departments of the various states for their invaluable assistance in the collection of the laws of the state regarding savings banks, and the operation of the laws in the states. The office of the Comptroller of the Currency has furnished the material for the District of Columbia and for the year 1931.

The problem of research necessarily involves the use of many books and libraries. Thanks are due to Miss Eva Perry of

Cudahy Memorial Library, Loyola University, and to the staffs of the Chicago Public Library and the John Crerar Library of Chicago. Mr. French, Assistant Librarian of the latter institution, has been exceptionally gracious with his services. The statistical indexes used are presented through the courtesy of the Chicago office of the Standard Statistics Company.

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TABLE OF CONTENTS.

TABLES.

CHAPTER I.

SAVINGS BANKS AND INVESTMENTS.

It is the purpose of this study to review the relationships which are observable between commodity prices, the yields on the various types of securities which are available for investment by savings banks as limited by law, and the holdings of these securities by the savings banks as affected by a period of falling prices. The study includes one of the most exceptional periods of American finance, 1922-1931, and investigates the relative ability of savings banks to escape the consequences of a falling price level.

Among the various factors which experts name as contributing causes for the abnormal number of bank failures in the United States during the period 1929-1931 is the lack of liquidity of assets[1], the inability of banks to turn a sufficient amount of their assets into cash without appreciable loss. One of the principal items among bank assets, *i.e.*, investments and especially bond investments, was substantially affected by the great stock market crash of 1929 and the demoralization of the bond market during 1930 and 1931. It is useful, therefore, to examine the role of investments in the portfolio of a bank, and the impact of falling commodity prices upon prices of such securities as are commonly held in the portfolios of savings banks.

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1. J. W. Bell, "Recent Changes in the Character of Bank Liabilities and the Problem of Bank Reserves". *American Economic Review.* 22:185-207. Supplement. Mar. 1932.

A banking institution performs a variety of functions, upon the basis of which it is possible to classify the types of banks. According to one such classification, banks may be separated into two broad divisions, commercial and investment. The former are institutions which have as their main activities the acceptance of deposits which are payable upon demand through the use of checks; the making of loans against a definite legal reserve; and the issue of bank notes[2]. This type of bank includes all national and state banks, and, in so far as commercial policies are attached to their business as incidental, trust companies.

Investment banks are those which are established primarily to turn the collected savings of individuals into relatively permanent productive channels. The deposits are of a highly specialized type which demand repayment, not upon demand, but upon comparatively short notice. The deposits are the result of the individual savings of many, not the result of commercial loans such as are the deposits of commercial banks, considering the banking system as a whole. The primary function, therefore, of a savings bank as one type of investment bank, is the collection of funds to be placed in productive usages, with the repayment of these funds to be made within a comparatively brief time after demand.

Savings banks may be divided into two groups according to

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2. W. H. Kniffen. Commercial Banking. v. 1, ch. 1.

the basis of organization and distribution of profits. A savings bank may be founded in much the same manner as a commercial bank, with stockholders who contribute a capital upon which the business starts. The stockholders receive the profits in the form of dividends and direct the affairs of the bank through a board of directors chosen annually. The second type of savings bank, the mutual savings bank, is separate in form from commercial banks. The capital is contributed by the depositors in the form of deposits, the management of which is delegated to trustees who are elected or appointed for life. The profits are divided among the depositors in the form of interest on deposits. A mutual savings bank starts with only an expense account, it has not the stock savings bank's working capital.

Three cities dispute the title of possessing the first savings bank in the United States, New York, Philadelphia, and Boston. Each is justified from its own viewpoint. The order observed in this summary is one of foundation.

In 1816, a London magistrate, Patrick Colquhoun, wrote to a New York merchant friend, Thomas Eddy, praising the English institution known as the savings bank, citing its beneficial effect upon savings by the laboring classes, and also the benefits to the community as a whole. Moved by this letter, Eddy gathered a number of his friends together on November 29, 1816, and after much discussion and argument, the group decided to organize as the "Bank for Savings in the City of New York". This was the first organization of a savings bank in the new nation. The New York legislature took a long while to sanction the formation of this group, so long as a matter of fact, that the movement spread before the first organized bank could begin operations. The sanction was finally given March 26, 1819, and actual business began on July 3 of the same year.

Meanwhile, twelve days after the formation of the bank in New York, Philadelphia's "Saving Fund Society", founded by Condy Raguet, began to receive deposits. Here, too, the legislature delayed in chartering the institution until February 25, 1819, allowing Boston to claim the first legally chartered bank, "The Provident Institution for Savings in the Town of Boston", which received official permission to receive deposits December 13, 1816. In effect, the three banks were started simultaneously. Twelve days deparated the foundation in New York and Philadelphia, and twelve days later Boston joined the ranks. A fourth city to start a savings bank was Baltimore, which organized its "Savings Bank of Baltimore" on January 1, 1818, began business on March 16, and was chartered in December of the same year[3].

Table I shows the growth of savings banks from humble beginnings to a major factor in the financial structure of the the United States. In the later days, after the Civil War, the the Middle Western states began to organize their particular

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3. E. W. Keyes, <u>History of Savings Banks in the United States</u>. pp. 308, v.i; v.ii, pp. 356-7; i, 38-41.

TABLE I. Growth of Savings Banking in the United States, 1820-1931.

Year	Banks	Deposits	Depositors
1820	10	$ 1,138,576	8,635
1840	61	14,051,520	78,781
1860	278	149,277,504	693,970
1880	629	819,106,973	2,335,582
1890	921	1,524,844,506	4,258,893
1900	1,002	2,449,547,885	6,107,083
1910	1,759	4,070,486,246	9,142,908
1915	2,159	4,802,615,048	10,686,058
1920	1,707	6,490,002,000	11,427,556
1921	1,707	6,759,003,000	12,083,525
1922	1,685	7,070,724,000	12,548,997
1923	1,647	7,711,501,000	13,340,333
1924	1,613	8,229,611,000	13,971,793
1925	1,583	8,930,024,000	14,656,527
1926	1,524	9,305,310,000	15,161,799
1927	1,461	9,507,903,000	14,814,272
1928	1,407	10,003,603,000	15,004,558
1929	1,358	10,117,825,000	14,043,614
1930	1,320	10,357,161,000	14,102,584
1931	1,254	11,039,310,000	14,274,792

Sources: 1820-1915, Annual Report of the Comptroller of the Currency, 1920.
1915-1931, Annual Report of the Comptroller of the Currency, 1932.

form of the savings bank, the stock bank. Up to this time the banks had been centered in the East and were all mutual in character. The peak of development for mutual banks occurred in 1905 when 668 banks were operating. The top of stock bank operation was in 1915 when 1529 banks reported to the Comptroller of the Currency. The peak of stock bank deposits, $2,196,400,000, was reached in 1926, but the amount deposited in mutual banks is still growing, although it totaled $12,356,114,000 in 1931.

Since the total number of banks is decreasing and the total deposits are increasing, the condition apparently represents the elimination process which is going on in finance through which unsound institutions are washed out leaving only strong, healthy banks in operation.

The increase of bank deposits gives some measure of the increasing problem faced by bankers and trustees of savings banks, the problem of investing these funds in a manner which will be safe and yet will yield a return sufficient to pay for the expenses of operation.

Since both types of savings banks are merely agencies of deposit, they must offer an incentive to the public to attract the funds which are not at the time being used in productive operations. This may be called a form of payment for "time preference" after Irving Fisher's and Böhm-Bawerk's explanation of the theory of interest. It is the interest which must be paid to call forth the savings of people, to make people prefer future to present goods. The payment of this sum is justified even from the banker's position. He will put any funds with which he may be entrusted into productive agencies and will reap the income from such operations. Since the owners of the funds are his depositors, the banker must in justice pay them part of the income which remains after all the expenses of his business have been paid[4]. To get a sufficient amount of income to pay his expenses and have enough net profit to pay a rate of interest adequate enough to call forth savings, he must choose investments which will yield a maximum. On the other hand, he is bound to pay his depositors within a short time after they may demand their funds, and therefore must keep his assets in as liquid a form as is consistent with conditions, watching each investment carefully to secure the requisite safety of principal and liquidity.

Investment is the act of directing the employment of funds into capital or into claims to income[5]. In ordinary cusiness conotation the term investment includes the transformation of current income into claims for future income, it may also include the maintenance and increase of capital goods so as to derive present or future income, and also the purchase of durable consumptive goods with the intention of psychic enjoyment rather than physical. The social view of the transfer of savi

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4. Table II shows the average interest credited accounts in stock and mutual savings banks, 1922-1931.
5. Encyclopedia of Social Sciences. v. 8, pp. 263-264.

TABLE II. Savings Bank Interest Rates, 1922-1931.

Year	Stock Savings Banks High	Low	*Avg.	Mutual Savings Banks High	Low	*Avg.
1922	4.00%	3.00%	3.75%	5.00%	3.00%	4.00%
1923	4.50	3.00	3.75	5.00	3.50	4.00
1924	4.00	3.00	3.75	5.00	3.81	4.25
1925	4.25	3.00	4.00	5.00	3.75	4.00
1926	4.25	3.00	4.00	5.00	3.50	4.25
1927	4.25	3.44	4.00	5.00	3.50	4.50
1928	4.00	3.00	3.75	5.00	2.38	4.00
1929	4.00	3.00	4.00	4.74	3.00	4.25
1930	4.00	3.00	4.00	4.88	3.00	4.30
1931	4.00	3.00	4.00	5.00	3.00	4.25

* An approximate modal average.

Source: Annual Reports of the Comptroller of the Currency, 1922 to 1931.

ings of the public to those who can use them most productively with a resulting increase in the capital and income of the community is sometimes included in the term investment, but not in the ordinary sense. Speculation, on the other hand, is the direction of the employment of funds for the acquisition of goods which are expected to appreciate in capital value, rather than a permanent claim to future income. There are certain general considerations which all investors must take into account: yield and appreciation possibilities, marketability, and safety. They are to some extent mutually exclusive. As a result the investor may desire to emphasize one of them at the expense of the others. For instance, one investor may want an appreciation of capital at any cost, and will exclude items of safety which will bring but little yield. Thus he plainly becomes a speculator. A savings bank must look for marketability (the ability to sell a security immediately at any price), safety (the promise of ultimate return of principal), and yield. Since these are not all to be found in any one set of investment securities, either safety or yield will be desired according to the particular conditions which the banker faces. If the community which deposits in this bank wishes or is likely to wish to get its deposits, safety is his chief desideratum. If the community is enjoying a period of self-sufficiency and can save out of present incomes, yield becomes more desireable for the time being.

The problem of the savings bank may be stated as follows:

"the problem is to know how to invest this money entrusted to our care so that it will be readily available to the depositor in case he needs it; so that it will earn for him the highest rate of dividend consistent with safe savings bank practice, and so it will be available to him on demand"[6]. This banker says "on demand", for the savings bank prides itself in not demanding a thirty- or sixty-day notice from depositors on withdrawals. Another banker emphasizes the return on investments when he says: "the purchase of investment bonds is a secondary function of banks, the primary is to seek a maximum dividend rate and to serve the community by buying mortgages"[7]. That this statement is true may seem anomalous but the best interests of the community are the interests of the savings bank itself, and if the local productive processes cannot be fostered, the foreign (those outside the community) investments will be of little value. The majority of the investments of a savings bank are, therefore, in mortgages and loans on real estate. Since each of these loans is a separate matter and can only be judged properly by the individual banker, the problem of marketability and liquidity will be the chief conditions for lending of money on real estate securities.

It is easy to see that since real estate mortgages may not

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6. H. C. Bryant, "General Principles for Investing Savings Bank Funds". American Institute of Banking Conferences. 1925. pp. 558-560.
7. R. T. Veit, "The Bond Account as an Earning Factor". Ibid. pp. 584-587.

be immediately convertible into cash without some loss of principal, dependent upon the prices of real estate and the ratio of loan to value of the property, the bank must carry some of its funds in a more liquid form. Of course, cash on hand and money which has been deposited in other banks can be realized at once and will constitute the primary reserves of any bank against the demands of its depositors. These reserves are usually restricted as to minimum amounts by legislation which varies according to states. Security investments are generally listed as secondary reserves, that is, those reserves which are readily able to be turned into cash or other primary reserves.

Because savings banks are fiduciary institutions and as such have a public trust, the state has seen fit to legislate regarding the amounts and kinds of securities which may be held. These rules which will be studied in detail in a succeeding chapter, represent an attempt to solve the direct problem of the bankers, and indirectly that of the public of obtaining a maximum yield in security investments with a minimum of risk with marketability always present. In addition to security investments, the secondary reserves of a savings bank also include commercial paper and bank acceptances which may be bought from a commercial bank. As loans proper, the final set of investments, there are found real estate or collateral loans, and here, too, the state has set certain limitations. However, these regulations are more or less arbitrary in that they prescribe only the maximum of risks which may be taken.

Looking at the picture of a bank's assets as a whole, investments exhibit a peculiar character as secondary reserves. In normal times they are secondary earning assets, since they do not command the return which mortgages and loans on real estate or collateral do. In times of financial panic they become very liquid and approach the position of primary assets, little being considered on behalf of yield. In times of industrial prosperity they may become the primary earning assets of a bank, provided the returns on real estate or the market for land is depressed. In any event their character will be determined by the character of the deposits which are taken[8] and the frame of mind of the depositors. If the pressure of adverse economic conditions is felt by the public, liquid security commitments are to be expected, while in times of prosperity investments seek as high yield as is consistent with marketability.

Because the diversity in bank policy regarding investments is measured only by the number of individual bankers in the United States, each acting as a law unto himself[9], some limitation must be made in dealing with the problem. Many states have enacted laws which limit the investments of a savings bank. Since it is common knowledge that these institutions are among

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8. J. W. Bell. *Op. cit.*
9. This is true, although there is a customary method of making these investments. The diversity of these plans, however, can be seen through a perusal of banking magazines.

the most conservative financial institutions existent, it is useful to investigate the place of investments in their portfolios and to determine the effect of commodity prices upon them during the period 1922-1931.

Some writers hold that there is a causal connection between the wholesale prices of commodities and the interests, e.g., Carl Snyder, Leonard Ayres, Waldo F. Mitchell. In this view, security prices and yields would also be affected by changes in commodity prices, as Snyder and Fisher point out.

In general bond prices reflect the amount of available capital or concrete instruments of production. These prices reflect the combination of many factors among which the more important are the relative demand for permanent capital by industry and government, the availability of loanable funds, and the investor's view of the future. In addition to being a passive factor in the cycle of business and industry, the price of capital is an active causal factor in itself. When bond prices are low and borrowing can be done only at high costs, business is discouraged from expanding. This has a sobering influence on the optimism of entrepreneurs and is a factor in prolonging business inactivity. Low interest rates will not induce people to borrow, since the interest rate itself is not the only factor which controls the size of industry and its progress. In other words, business men do not borrow because interest rates are low and capital is available, but they are deterred by high interest rates, which saddle them with high fixed charges for a long period of time.

Since the return will determine the definite type of investment which a bank will make of its time deposits, all other things remaining equal, the study of price levels and the actual use of deposits is important.

Specifically, then, this paper proposes to study the legal investments for savings banks in the light of:

1. The laws regulating investment as contrasted with economic theories of investment;
2. The relation of commodity prices to bond yields in a period of falling prices;
3. The actual use of funds by bankers from 1922 to 1931.

Data covering the following series have been obtained for the period 1922-1931:

1. Wholesale commodity prices;
2. Yields of bonds, preferred stock, common stocks;
3. Investments of savings banks;
4. Deposits of savings banks.

The data concerning savings banks was derived from the annual reports of the United States Comptroller of the Currency for 1922 to 1931 inclusive. This data includes the analysis of investments by groups. The practice of some states in making these reports, however, has been to bulk the total of the investments in a miscellaneous report. For this reason the total figures for the 27 states in which savings banks are operating are misleading. In order to secure an adequate picture of the investments of savings banks a sample of the 15 states which have generally divided their investments into the groups named by the government was taken and these figures are used in all the tables showing a total of deposits or investments. The comparison of the total amounts and the amounts given by the sample states together with a test of percentages for adequacy is given in the Appendix.

CHAPTER II.

SAVINGS BANKS AND COMMODITY PRICES.

Savings banks may be affected by commodity prices in two ways, through deposits and through investment yields. All other things being equal, a decrease in commodity prices should result in increased savings and increased deposits. Similarly, a decrease in commodity prices, other things remaining equal, will result in a larger quantity of goods which may be bought for a fixed income such as is received from bonds, and the prices of these securities will rise, causing a decrease in the yield.

Economic progress is a term used to designate a more efficient use of the factors of production in the process of satisfying wants. This increase in efficiency increases the total product which a given combination of the factors is able to effect, resulting in an increased return to the factors themselves because of the increased productivity per unit of each factor. In the long run profits disappear as a distributive share of income since they are due to temporary advantages and friction in the economic order, which also disappear. Two shares are left, wages and interest. Economic progress, therefore demands that both wages and interest shall increase in proportion to the increased efficiency in production. Another way of stating this fact is that the money income to the factors must increase in proportion to the increased output of the productive agencies. If the income does not increase with the output per capita, the economic pressure of unsold goods on account of the lack of purchasing power by the various factors causes prices to fall. This position may also be stated as follows: the money rate remaining at a profit level, any increase in the productivity of the factors causes prices to fall. The problem of a falling price level centers about the disproportionate distribution of the income of production among the factors.

During the period 1922-1931 wages increased in insufficient proportion to the per capita output of goods and services, a condition causing a maladjustment of the cost-price structure, a state of disequilibrium which tended to produce business losses and depression in the long run . The money wage level in itself cannot control the price level and monetary purchasing power, but must remain as a probable effect of changes in prices and business profits first. Employers raise wages usually only under the pressure of economic forces. Business increases causing a larger supply of money and credit. More goods are produced, larger stores arise, the volume of trade must grow, causing larger loans at higher rates of interest to be contracted. Business gets and pays more than before, but not in wages. Larger profits result in larger capital accumulations and these inevitably increase the demand for labor and thus cause an increase in wage rates. If wages increase in the period of falling prices, they did so at the expense of interest. In addition to receiving a disproportionate share of the income, the share of income which was due to capital as a return for its productivity was "plowed back" into the business to an overbalancing degree[1]. These two actions helped to keep the income from increasing proportionately to the output of production per capita. Therefore, the period of falling prices, 1922-1931, reinforces the conclusions of economic reasoning.

Wage rates increased slightly from 1922 to 1931, interest yields fell for the greater part of the period, two conditions which, when set against falling price levels, showed that a disproportionate division of the income was being made. The increase of both nominal and real wages, as shown in table III, furnishes a potential explanation of the increased savings deposits during this period. Since wages constitute an important part of all production costs, and this part of production costs remained constant or increased slightly, the fall in prices, other things remaining equal, caused real wages to increase, and also gave increased possibilities of savings which could be treated as savings bank deposits. Part of the increase in deposits may also be traced to the change in corporate means of savings from commercial demand to time deposits[2].

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1. cf. R. Weidenhammer, "Faulty Investment of Corporate Savings" American Economic Review. 23:35-41, Mar. 1933.
2. B. M. Anderson, Jr. "Bank Expansion Versus Savings". Chase Economic Bulletin. v. 8, June 25, 1928. Also his "Bank Money and the Capital Supply". Ibid. v. 6, Nov. 8, 1926.

The trend of prices is dependent upon the quantity of money in circulation and the output of goods generally. If the output of goods increases, the amount of money in circulation remaining constant, the price level should decline unless income keeps pace with the output per capita, a condition incongruent with the assumption. Again, if the volume of output remains constant, prices will vary directly with the amount of money in circulation. Both these statements are long run tendencies. However, in the short run many variant factors may enter into the calculations[3].

There are certain relationships between commodity prices and interest rates, one of which shows that the trends are alike in the long run[4]. The price level influences the volume of trade in an adverse fashion in the short run[5], a high interest rate tending definitely to be associated with a high price level, and vice versa. The volume of trade influences the rate of interest[6]. Prices remaining the same, a larger volume of trade means a greater amount of profits for the seller of commodities.

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3. Alfred Marshall, Official Papers, p. 21. New York, Macmillan, 1926.
4. Irving Fisher, Theory of Interest, p. 438. New York, Harper, 1930.
5. Irving Fisher, "Our Unstable Dollar and the So-called Business Cycle". American Statistical Association Journal. 20:179-202, Jun. 1925.
6. Carl Snyder, "Influence of the Interest Rate on the Business Cycle". American Economic Review. 15:684-699, Dec. 1925.
   Waldo F. Mitchell, "Interest Cost and the Business Cycle". American Economic Review. 16:209-221, Jun. 1926.

TABLE III. Index of Average Weekly Earnings of Labor in Factories, 1922-1931. (1923-100)

Year	Index*
1922	99.8
1923	100.0
1924	99.2
1925	101.6
1926	102.5
1927	102.3
1928	103.7
1929	105.8
1930	94.6
1931	81.1

* Compiled by National Industrial Conference Board from reports of manufacturing plants in 24 industries. The number of plants represented at the end of 1930 was 1444 employing about 634,000 wageearners (or 840,000 in 1923). The weekly earnings are computed by weighing the average weekly earnings found in each industry by weights based on the relative importance of each industry as revealed in the Census of Manufacturers for 1923. For each separate labor group the weights, in addition to being based on the Census of Manufacturers for 1923, also reflect the relative importance of each group in each industry as revealed in the conference board studies during 1927-1929.

Sources: National Industrial Conference Board. *Wage Rates in the United States, 1914-1930.*
National Industrial Conference Board. *Wage Rates in the United States, 1931.*

Rising prices increase actual profits as well as those expected, an inducement for business expansion. This expansion causes an increase in the interest rate. The opposite action takes place in the case of falling prices[7].

The rate of return for high-grade bonds, however, moves, not in direct sympathy with business activity and commodity prices, but rather in sympathy with changes in banking and credit operations. In other words, speculative activity influences price changes in bonds only indirectly[8]. The amount of money in circulation and the uses to which it is put will determine the rate of return which will be received from bonds. The proof of this statement is based upon the observations already made, that deposits are dependent upon prices, other things remaining equal. The increase in deposits which results from the inability of income to keep pace with the per capita increase of output at a profitable market rate of interest forms an increasing supply of capital for further expansion[9]. This increasing supply was more than adequate from 1922 to 1931, when joined with the increased amount of commercial bank loans, to provide for all the demand for capital wants in productive processes. The surplus was a contributing cause to the fall in the interest rate and the yield upon bonds[10].

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7. Irving Fisher, Theory of Interest, p. 444. New York, Harper, 1930.
8. Ralph E. Badger, Investment Principles and Practice, pp. 844-845. New York, Pentice-Hall, 1928.
9. Table IV compares the price index with deposits, 1922-1931.

TABLE IV. Commodity Prices and Deposits of Savings Banks (15 States), 1922-1931.

Year	Index of Prices (1926-100)	Deposits (000's)
1922	96.7	$ 2,839,770
1923	100.6	3,083,731
1924	98.1	3,260,700
1925	103.5	3,452,483
1926	100.0	3,644,727
1927	95.4	3,866,483
1928	97.7	4,148,956
1929	96.5	4,189,034
1930	86.4	4,383,381
1931	73.0	4,592,328

Sources: Standard Statistics Bulletin Base Book, Jan. 1932, v. 63, no. 7, sec. 3, and supplements.
Annual Reports of the Comptroller of the Currency, 1922-1931.

The yield on investments is one cause determining the use which will be made of funds deposited by individuals in savings banks. The type of bond which yields the greatest return consistent with safety and liquidity will naturally be the type of bond which will be purchased by savings banks, other things remaining equal[11]. The examination of these tendencies is left to succeeding chapters.

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10. Table V compares the price index with the yields of government and composite industrial bond indexes.
11. Table VI demonstrates the trend of investments relative to total deposits, paralleled with the trend of commodity prices.

TABLE V. Commodity Prices and Bond Yields in the United States, 1922-1931.

Year	Index of Prices (1926-100)	Index of Yield Govt. Bonds	Composite Index of 90 Bonds
1922	96.7	4.35%	4.94%
1923	100.6	4.45	4.98
1924	98.1	4.09	4.85
1925	103.5	3.99	4.72
1926	100.0	3.95	4.60
1927	95.4	3.46	4.47
1928	97.7	3.44	4.49
1929	96.5	3.65	4.69
1930	86.4	3.40	4.52
1931	73.0	3.46	4.68

Source: Standard Statistics Bulletin Base Book, Jan. 1932, v. 63, no. 7, sec. 3, and supplements.

TABLE VI. Commodity Prices and Savings Bank Investments (15 States), 1922-1931.

Year	Index of Prices (1926-100)	Investments (000's)	Percent of Deposits
1922	96.7	$ 1,588,777	56.3%
1923	100.6	1,668,623	54.1
1924	98.1	1,706,270	52.3
1925	103.5	1,760,122	51.1
1926	100.0	1,794,399	49.4
1927	95.4	1,885,530	48.8
1928	97.7	2,023,905	48.9
1929	96.5	2,129,818	50.9
1930	86.4	2,183,774	49.9
1931	73.0	2,385,232	52.1

Sources: Standard Statistics Bulletin, Base Book, Jan. 1932, v. 63, no. 7, sec. 3, and supplements.
Annual Reports of the Comptroller of the Currency, 1922-1931.

CHAPTER III.

STATUTORY LIMITATIONS UPON INVESTMENTS.

The state has the right to exercise supervision over the practices of fiduciary agents in the interest of the general public. This right becomes a duty when the state is the only body which can adequately perform this function, or when the interest of a great body of the state's inhabitants is at stake. Public interest demands that the deposits of the individual savers which have been entrusted to banks be invested in a conservative manner. Because of the fiduciary character of savings banks states have taken various steps with the end of protecting the deposits of clients from misuse and use in activities which are speculative or characterized by great risk. The first steps were taken when the size of the savings bank movement began to give evidence of its present magnitude.

Since the savings banks before the Civil War were all of the mutual type, the trustees were held directly responsible to the depositors for the application of the funds received on deposit. The local character of the banks kept the moral liability for the funds foremost in the trustees' minds, the concept of public confidence in them checked riskful investments by the trustees. However, when the banking movement enlarged and deposits were received from outside the immediate community, the state saw that the regulation of the practices of investment by these banking institutions was within its proper jurisdiction. Thus we find that eighteen years after the chartering of the "Provident Institution for Savings in the Town of Boston" in 1834, an act passed the Massachusetts legislature, an act which regulated the placing of funds deposited in savings banks. The custom of the Bank was to invest in bonds of the United States, Massachusetts, in bank stocks, and in the securities of companies favored by the trustees' personal knowledge. Other banks had often followed the practice of dumping all its deposits into the bank chartered by the state where a six percent return was given. The reason usually advanced for this procedure was that the State bank offered the best return available without incurring great risks. The efficacy of this transfer of deposits to the State bank depended upon the management of the State bank itself.

The aforementioned act of April 2, 1834 of the State of Massachusetts provided for investment of deposits of savings banks in the stocks of any bank incorporated by Massachusetts or the United States, in loans to such banks at interest, in loans secured by such bank stocks as collateral, in the public debt of Massachusetts and of the United States by purchase or loans secured by these obligations as collateral, in loans to the counties and towns of Massachusetts, in three-name commercial paper, and in mortgages on real estate to the limit of 75% of the total assets of the bank[1]. This initial law regarding the

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1. E. W. Keyes. Op. cit., p. 48.

investments of savings banks was copied with some changes of a minor character by Connecticut (1834), New York (1846), New Jersey (1850), Rhode Island (1858), New Hampshire (1869)[2]. There are but few states today which do not regulate the investments of savings banks. There is not a single state which does not supervise such investments by means of its banking department[3].

The fundamental characteristics of the early laws carried over into the present are the recognition of mortgages of real property as a great source of profitable investment, the provision for purchase of governmental and municipal bonds in the United States, the purchase of obligations of the various productive agencies, the dependence of all banks upon the credit structure of the nation as evidenced by purchases of the stocks of large banks.

Table VII outlines the securities which may be held by savings banks in the respective states indicated. Only those states in which savings banks have operated since 1922 are included in the list.

From the table it will be seen that the states which sanction the purchase of all kinds of securities, as is to be expected, are the states which have no legislation on the subject, but

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2. Ibid., v. 1, pp. 124-125, 387, 343, 172, 207.
3. Alabama and Deleware do not actively exercise this power according to letters of the Bank Commissioners of these states to the author.

TABLE VII. Types of Securities Legally Approved for Savings Bank Investments, 1922-1931.

	BONDS							STOCKS						
STATE	U. S. Govt.	State	Municipal	Foreign	Railroad	Pub. Service	Industrial	Financial	Industrial	Railroad	Pub. Service	Mortgages	Commercial Paper	Bank Acceptances
Alabama	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
California	Y	Y	Y	Y	Y	Y	Y	Y				Y	Y	Y
Connecticut	Y	Y	Y	Y	Y	Y		Y				Y		Y
Delaware	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
Dist. of Col.	Y	Y	Y	Y	Y	Y	Y					Y	Y	Y
Florida	Y	Y	Y		Y			Y				Y		
Indiana	Y	Y	Y									Y		Y
Iowa	Y	Y	Y					Y				Y	Y	
Maine	Y	Y	Y		Y	Y	Y		Y			Y		Y
Maryland	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
Massachusetts	Y	Y	Y		Y	Y		Y				Y		Y
Michigan	Y	Y	Y		Y	Y	Y					Y		Y
Minnesota	Y	Y	Y		Y	Y						Y		Y
Mississippi	Y	Y	Y				Y					Y		
Nebraska	Y	Y	Y		Y	Y	Y					Y	Y	Y
Nevada	Y	Y	Y									Y	Y	Y
New Hampshire	Y	Y	Y	Y	Y	Y	Y	Y		Y	Y	Y		Y
New Jersey	Y	Y	Y		Y	Y						Y		
New York	Y	Y	Y		Y	Y						Y		Y
Ohio	Y	Y	Y	Y	Y	Y	Y					Y		Y
Oregon	Y	Y	Y		Y	Y	Y					Y		Y
Pennsylvania	Y	Y	Y		Y	Y						Y		
Rhode Island	Y	Y	Y		Y	Y	Y	Y		Y		Y		
Utah	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
Vermont	Y	Y	Y		Y	Y		Y				Y		Y
Washington	Y	Y	Y		Y	Y	Y					Y		Y
Wisconsin	Y	Y	Y									Y		

Sources: Laws of the states listed.

which leave the matter of investments to the boards of directors of banks. These states are Alabama, Delaware, Maryland, and Utah. Mississippi has no legal restrictions but the state banking department imposed certain rules upon the five banks in the state until 1932[4]. The District of Columbia allows the purchase of any marketable bonds as legal investments.

The most popular methods of investing the funds of depositors are mortgages, government, state, and municipal bonds. All states recognize the value of such securities as those entailing the least risk. Mortgages receive attention because of their integral position in the productive processes of the immediate community surrounding the bank. This reliance on the stability of the local economic organization and the political institutions of the nation is a well-founded belief for these institutions, in combination with the church and the family, form the base upon which all other economic and social units are built. If these two fail, all industries lose their power and all loans to them are worthless.

In an analysis of the investments of savings banks, mortgages are naturally omitted since they lack the proper liquidity as mentioned in the introductory chapter. Likewise, bankers'

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4. Legal restrictions for the investment of public deposits is provided. These restrictions have been omitted in the study. The regulations of the department were given the author by the Bank Commissioner. The five states enumerated will be omitted from the detailed analysis of the various types of securities.

acceptances and other short-term commitments are excluded with commercial paper transactions. This abstraction is necessary to limit the problem to the long-term security issues, the security investments of savings banks.

All states recognize the bonds of the United States government as legal investments for savings banks, but less than one-half specifically state in similar fashion concerning the notes of the United States government[5]. Were the United States to issue stock at any time it would find a ready market in the savings banks of four states[6]. The conclusion seems to follow that the securities sponsored by the United States government are held sacrosanct by all savings banks and in the legislation of the various states. The only apparent reason for a distinction between the bonds, notes, and stock, of the national government seems to be one of terminology. Financial experts conceive bonds as securities with a definite promise to pay which is based upon some specific lien on income, notes as merely debentures which have no specific lien upon income, and stocks as a representation of ownership and a claim to a share of the profits, if any. The division of the obligations of the United States thus appears immaterial since all rest, in the last anal-

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5. Connecticut, Indiana, Iowa, Maine, Michigan, Minnesota, New Hampshire, New Jersey, New York, Pennsylvania, Rhode Island, and Vermont.
6. Connecticut, New Jersey, New York, and Pennsylvania.

ysis, upon the taxing power of the Federal government.

In addition to the direct obligations of the United States, some states authorize the holding of any security guaranteed in principal and interest by the United States government[7], the guarantee to be made by legislative action. This provision gives a market for the paper for many Federal projects which would otherwise lose their efficacy because they are not the direct obligations of the national government. The best examples of this type of obligation are the bonds issued under the provisions of the Federal Farm Act of 1916.

Canada holds a favored place among the foreign governments whose obligations are held as legal investments for savings banks. Other prominent nations, Great Britain, France, and Ireland, are generally given a place only slightly below that of the Canadian government. Only two states give almost unbridled freedom to the directors of the banks in their choice of foreign government obligations, the four having no restrictions at all being omitted, of course. California has no restrictions whatsoever, while Ohio limits investments to the obligations of nations which have not been at war with the United States since 1900.

Canadian bonds qualify under the provisions of six of the other states allowing foreign bonds[8]. These states evidently

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7. Connecticut, Maine, Minnesota, New Hampshire, New York, Pennsylvania, and Vermont.
8. Connecticut, Maine, New Hampshire, Rhode Island, Vermont, and Washington.

see some connection between the progress of our northern neighbor and the welfare of the American government. New Hampshire goes to the extreme in allowing any security which is guaranteed by the Dominion as a legal investment.

Concerning European bonds, the obligations of Great Britain, France, and Ireland qualify under the laws of Connecticut and Vermont. These two states are the most liberal in regard to European bonds in their legislation. In addition, Vermont allows banks to hold the securities of various minor countries[9].

Foreign provincial obligations qualify under the laws extant in Connecticut, Maine, and New Hampshire. In these states, the various provincial bonds of Canada are specifically states as legal investments for savings banks.

The payment of foreign bonds is generally demanded in legal tender of the United States, although gold is demanded by the statutes of California, Rhode Island, and Washington. The latter provision seems more judicious since it allows for a change in the monetary systems of nations without harming the position of the obligations[10].

In summary, California and Ohio have given the widest latitude to directors of banks in the choice of foreign investments. New Hampshire is liberal, but has specific countries named, as

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9. Newfoundland, Argentina, Chile, and Uruguay.
10. This provision guarantees against depreciated currency which might change the purchasing power of the principal of the bond.

has Vermont. The other states which allow foreign investments are strict and provide for only minor percentages of deposits to be so devoted. The large group of states which do not allow investments in foreign securities will be treated later in the question of the value of foreign investments for banks.

The political division immediately below the national government is the state. Each state has an individual power to borrow and to levy taxes, among its various functions. As a result of this power, the obligations of the state as of almost all political institutions have a place in the investment portfolios of savings banks. It is natural for a legislature to provide a legal status for any bonds of its own creation, therefore, all states permit savings bank investments in the obligations of the home state. When the provision is expanded to other states, various distinctions arise. One state, Connecticut, restricts the borrower to states which were admitted to the Union before 1896, while Washington, after allowing unrestricted investment in the obligations of the adjoining states, imposes a default rule upon all other states.

Mutual confidence in the ability of all states to meet their obligations does not exist apparently, judging from the laws regarding investments in state bonds. In general, most states have a clause which defines a default as a non-payment of interest or principal for a period of ninety days. The period in which a state must not have defaulted varies from five years in Indiana to twenty in Massachusetts and twenty-five years in California. Table VIII shows the various provisions for default in the states having savings banks, 1922-1931.[11]

The restrictions which states impose upon the qualifications for legal investments by savings banks in the obligations of the various minor municipalities are more varied than the statutory restrictions on either state or governmental securities. In some cases the legislation appears to be slightly confusing.

All states except Massachusetts assume that the municipalities and various minor divisions of the home state, i.e., county, borough, township, city, district, town, school district, etc., will be able to pay their obligations[12]. The justification of this confidence may be questioned in states which have no control over the expenditures of these minor units of government but these cases are very few in number[13].

Similar to the mutual lack of entire confidence of other states to pay their obligations is the distrust of the minor units of other states. In general the restrictions on the obligations of counties are more lenient than those for cities, where this division is made[14]. The county is considered able

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11. Connecticut demands that the issue have a seasoning of ten years, a novel provision for state bonds.
12. Massachusetts restricts the size of the borrowing unit to one with a total outstanding indebtedness of less than 5% of the total assessed value of all taxable property.
13. Georgia and Illinois are the only states which have no supervision over local accounts.
14. Division is made in Maine, Massachusetts, Rhode Island, and Washington.

TABLE VIII. Statutory Limitations for Qualifying State Bonds as Investments for Savings Banks, 1922-1931.

State	No default of more than __ days	in __ years.
California		25
Connecticut	90	10
Florida		
Indiana		5
Iowa		
Maine	90	10
Massachusetts		20
Michigan		10
Minnesota		10
Nebraska		
New Hampshire		
New Jersey		10
New York	90	10
Ohio		
Oregon		
Pennsylvania		10
Rhode Island		10
Vermont		
Washington	90	10
Wisconsin		

Sources: Laws of the states listed.

to be liable for a legal investment if it has over 20,000 population, has not defaulted on principal or interest payments for more than ninety days in the preceeding ten years[15], and has an indebtedness not exceeding 5% of the last net assessed valuation for tax purposes. Likewise, cities, when the division is made, are considered able to pay legal obligations if they can claim a population of more than 30,000 inhabitants according to the last preceeding Federal census, if there has been no default of interest or principal of more than ninety days for the preceeding ten years, and if the bonded indebtedness does not exceed 7% of the net assessed value of the properties listed on the last preceeding tax rolls[16].

When no division between counties and cities is made, the city is considered the minor political unit by the majority of the laws. Only two states have divided the states into groups for the purposes of regulation of the borrowers[17]. The majority of the states allow investments in the obligations of cities in any state provided they fulfill certain conditions. In

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15. Massachusetts places the minimum at twenty-five years.
16. Massachusetts is much more strict, requiring higher standards in all divisions, While Washington is slightly more lenient.
17. Minnesota restricts investment to municipalities in the adjoining states which have a population of 3,500 and a total debt of not more than 10% of the total valuation for tax purposes. Vermont lists two groups of states. The first is composed of the larger and more progressive states in which the town must have a population of 1,000 (500 for school districts), with a 5% debt relative to total tax valuation. The second group includes all other states except those in the Rocky Mountains, the town needing a

general, a city with a population of about 30,000 with no default in interest or principal for more than ninety days in the preceding ten years, provided the bonded indebtedness of less than 7% of the taxation valuation of properties is judged as a proper borrower. Table IX shows the variations from this standard.

Only two states place limitations upon the amount of funds which may be devoted to municipal bonds, Iowa stating 25% as the limit of the total assets which may be used, while Maine designates that the limit for obligations of counties is 3% of the total deposits, for the obligations of cities, 5% to 8% dependent upon the type of city.

The various governmental projects which are usually guaranteed by the national and state governments may be included in the analysis of governmental and municipal restrictions. The bonds of the Federal Farm Board and the Federal Land Banks are names as legal investments for savings banks in a number of states[18]. In similar fashion, New York and Iowa have provided for bonds issued by their own state agricultural corporations.

The purpose of savings banks as outlined in the introductory chapter is to collect the individual savings and to transform them into the concrete instruments of production. Since the function of government is essentially non-productive, all in-

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population of 4,000 and a debt of less than 5% of the total tax valuation.

18. Indiana, Iowa, Maine, Michigan, Minnesota, New Hampshire, New York, Oregon, Pennsylvania, Rhode Island, Vermont, and Wisconsin.

TABLE IX. Statutory Limitations for Qualifying Municipal Bonds as Legal Investments for Savings Banks, 1922-1931.

State	Population	Default Clause __ days in	__ yrs.	Valuation __% of tax rolls.
California	20,000		25	15%
Connecticut	20,000	90	15	7
Florida				5
Indiana				
Iowa				
Maine	10,000	90	10	5-8
Massachusetts	30,000		25	5
" "	100,000		25	7
Michigan		90	10	10
Minnesota	3,500*			10
Nebraska				
Nevada				
New Hampshire	50,000			7
" " "				5
New Jersey			10	10
New York	30,000	120	25	7
Ohio	1,000	90	10	10
Oregon	25,000		10	
Pennsylvania				
Rhode Island	30,000		10	7
Vermont	25,000*			5
"	50,000*			7
"	100,000*			---
Washington	45,000	90	26	12

* Specific groups of cities in specific states.

Sources: Laws of the states listed.

vestments by savings banks cannot be made in government and municipal obligations. Indeed, the total amount of such obligations available would be insufficient to fill the demand for them by savings banks alone without thought of other financial institutions. Savings banks must, therefore, look to other fields of investments. When the field of risk-bearing investments is entered, the legislation of the various states becomes more varied and more specific.

Industrial enterprises may be divided into three broad groups, railroads, public service corporations, and industrial concerns. The public opinion of the relative importance of each of these groups for investment purposes is subject to change, but the tendency of legislation has been quite definite. Specific legislation is provided in all states except Alabama, Delaware, Maryland, and Utah which leave the choice of securities to the individual boards of directors of the savings banks, and Nebraska and the District of Columbia, whose statutes provide for investments in all securities of "known marketable value".

Railroads were among the first enterprises to be conducted under the corporate form of organization in this country. Consequently, we find that railroad securities have played an important and definite part in American finance. Massachusetts recognized the importance of the new mode of transportation very early. In 1841 an act was passed which permitted savings banks to lend upon collateral which included the stocks of railways under certain conditions. The act of 1863 of Massachusetts provided for investment in the mortgages of railroads. This initial step was followed by many other states, until today only five states do not provide for railroad securities in the portfolios of savings banks[19].

In dealing with the states which allow legal investments in railroad securities, a division of the obligations into mortgages and equipment trust certificates will facilitate the study. A mortgage is an obligation of a corporation which is secured by a lien upon a definite portion of the property which the company owns. Unless specifically stated, a mortgage will mean a first mortgage which is a first lien upon the property names as the security for the loan. An equipment trust certificate is an obligation is an obligation of a railroad "secured by a first lien on, or by a lease and conditional sale of, new railroad equipment of standard gauge,...free from all other encumbrances. .. The instrument under which such securities are issued or the lease and conditional sale of such equipment provides for the proper maintenance and replacement thereof and for the payment of the entire issue of such securities in ... installments from the date of issue, without the release of any part of the lien or interest in any part of the equipment securing such securities until the said issue so secured shall have been paid or redeemed"[20].

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19. Indiana, Iowa, Mississippi, Nevada, Wisconsin.

The discussion will assume that all railroads under discussion are steam railroads of standard gauge, since this is the provision in the laws of those states which define the term "railroad". With the exception of certain sections of the laws for Connecticut, Massachusetts, and Vermont, all railroad securities in the United States are subject to the regulation of legal investments.

The first point to be noted in laws governing investments by savings banks in the obligations of railroads is that a road should own from 300 to 500 miles of track, exclusive of terminals and sidings. This provision is modified in some states[21], but the concept may be imputed to the various statutes which do not mention it specifically[22]. Oregon's legislation holds that a "legal" railroad should have a bonded indebtedness of less than three times the outstanding capital stock, and that the issues should be listed on the New York Stock Exchange. This provision for the size and marketability of a bond issue seems somewhat unnecessary if the other provisions have been made suffic-

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20. Massachusetts General Laws. Chapter 168, Section 54, clause third, sub-section p, as amended (1926). (Chapter 283, amendments).
21. Minnesota and Rhode Island specify one hundred miles of track.
22. California, Florida, Massachusetts, New Hampshire, New Jersey, Ohio, Oregon, Pennsylvania, and Wisconsin.

iently difficult of attainment. Still other states judge a railroad by its minimum gross revenue[23]. This provision is somewhat more valuable than that of Oregon in regard to debt and capital, since it assures that a sufficient income is made to use in meeting the interest charges. The length of time over which this earning capacity must have been demonstrated varies, the average and most common period being five years. Some states are lenient and provide for sudden changes in revenue by allowing for a certain proportion of years. This provision seems to be more judicious than the absolute statement of a number of years since a drastic reduction of revenue may occur before adjustments of expenditures can be made. Table X shows the provisions of states for savings bank investments in railroad securities and lists the various requirements of earnings.

Although some states have not required a definite gross revenue, almost all have set a certain ratio of fixed charges to the amount of net earnings[24]. The popular ratio for the covering of all fixed charges, i.e., rent for leased roads, miscellaneous rents, fixed interest on funded debt, interest on unfunded debt, and amortization of discount on funded debt, is one and one-half times. New York makes a concession to the absolute

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23. Connecticut, Maine, Massachusetts, and Vermont require $15,000,000 annually, Michigan $10,000,000 for each of the preceeding five years, New York for $10,000,000 annually.
24. Exceptions are Connecticut, Florida, Massachusetts, Minnesota, New Jersey, Pennsylvania, and Wisconsin.

TABLE X. Statutory Limitations for Qualifying Railroad Bonds as Legal Investments for Savings Banks, 1922-1931.

State	Times fixed charges earned	Years of earnings	Rate of dividends paid	Years dividends paid
California	$1\frac{1}{2}$	1		
Connecticut			4	5
Florida				2
Maine	$1\frac{1}{2}$			5
Massachusetts			4	5
Michigan	$1\frac{1}{2}$	4 of 5		5
Minnesota			4	5
New Hampshire	$1\frac{1}{2}$-2			3 of 4
New Jersey				5
New York	$1\frac{1}{2}$	9 of 10	$\frac{1}{4}$ fix chg.	5 of 6
Ohio	1		5	5
Oregon	$1\frac{1}{4}$	5	4	5
Pennsylvania			4	5
Rhode Island	$1\frac{1}{2}$-2	3		
Vermont	5	10	4	5
Washington	$1\frac{1}{2}$	5 of 6	$\frac{1}{4}$ fix chg.	6
Wisconsin			4	5

Sources: Laws of the states listed.

statement in a provision which calls for this ratio in nine of the ten preceeding years[25].

In addition to the interest payments on the outstanding bonds and other evidences of obligations, the statutes generally require that the railroads have paid a certain rate of dividend on the outstanding common stock. The popular provision is a 4% dividend for the preceeding five years. This provision is found in nine of the fifteen states requiring a rate of dividend payments[26]. New York and Washington, in an attempt to proportion the amount of dividends to the amount of interest expenditures, have made a novel provision calling for dividends to equal one-fourth of the fixed charges[27]. The one difficulty found with this statute is that roads may be persuaded to issue fewer bonds than are necessary to finance themselves in order to keep other issues on the "legal lists"[28].

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25. Oregon lowers the ratio to 1¼ while Vermont raises it to 5 for railroads located outside New England.
26. Connecticut, Massachusetts, Michigan, Minnesota, New Jersey, Oregon, Pennsylvania, Vermont, Wisconsin.
27. "that in each year for at least five of the six fiscal years next preceeding such investment, such investment, such railroad corporation shall have paid dividends in cash upon its capital stock equivalent to at least one-fourth of such fixed charges". New York consolidated laws. Chap. 2, Art. IV, Sec. 239, cl. 7.
28. Many states have passed amendments which allow banks to hold bonds of companies which have violated the dividend requirements in 1931 on the basis of previous records. cf. New York Consol. Laws. Chap. 2, Art. IV., Sec. 239, cl. 7a.

After describing the companies which may sponsor obligations suitable for savings bank investment, the laws of the various states usually describe the form of the issues themselves and the security underlying the issue. First mortgages are specified in the laws of thirteen states[29]. A first mortgage is a first lien on the real property owned by the railroad to the average extent of 75% of the actual value[30]. Debentures, or claims to income from the road, are acceptable to the laws of Florida[31], Massachusetts, Rhode Island[32], New York and Washington[33]. Consolidated and refunding mortgage bonds are regarded as the equivalent of first mortgage bonds by eight states[34]. Maine, Pennsylvania, and Rhode Island allow the bonds of Canadian railways to qualify under conditions similar to those for American bonds, believing that the operation principles and methods of the roads of the two countries are similar.

As for equipment trust certificates, the usual term of the trust agreement is fifteen years[35]. The bonds outstanding or

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29. Connecticut, Florida, Maine, Massachusetts, Michigan, Minnesota, New Jersey, New York, Oregon, Rhode Island, Vermont, Washington, and Wisconsin.
30. Oregon reduces it to one-third.
31. For certain roads in the state only.
32. For certain roads which have a large margin over fixed payments.
33. These two states require a collateral deposit of other railroad bonds which are legal for investment.
34. Maine, Massachusetts, Michigan, Minnesota, New Jersey, Rhode Island, Vermont, and Wisconsin.
35. Rhode Island statutes are indefinite, as are those of Ohio, but the two imply a term of fifteen years.

authorized cannot exceed the value or cost of the equipment behind the issue by more than 20% according to common opinion of legislators[36]. Some states still have provision for the bonds secured by the National Railway Corporation[37], while New Hampshire extends the equipment trust clause to include the certificates of Canadian railways.

An essential part of a railroad is a terminal or connection with other means of transportation. This relation causes bonds of terminal, dock, and wharf companies which are guaranteed by railroads whose bonds are themselves deemed "legal" to be considered equivalent to other legal securities. The restrictions usually provide for a 75% first mortgage on the entire properties of the company. The bonds of minor railroads which are guaranteed by other roads whose obligations are themselves able to qualify as legal investments according to the state law are added to the list in several states[38].

Deviations from the general outline of legislation are found in Massachusetts, New York, Vermont, and Washington. Massachusetts and Vermont approve the purchase by savings banks of:

> "A mortgage upon not less than ten percent of the railroad, exclusive of sidings, owned in fee at the date of said mortgage by the corporation issuing or assuming said bonds, but in no case on less than five hundred continuous miles of

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36. Ohio decreases the percentage to 50%, California to 60%, while New Hampshire and Washington increase it to 85%.
37. Maine and New Hampshire.
38. California, Massachusetts, Minnesota, New Hampshire, New Jersey, New York, Pennsylvania, Rhode Island, Vermont, Washington.

standard gauge railroad: provided that--
"said mortgage is a first or second lien upon not less than seventy-five percent of the total railroad covered by said mortgage at the date thereof, and which provides for the retirement of all mortgage debts which are a prior lien upon said railroad owned in fee and covered by said mortgage, at the date of the execution thereof;
"the bonds secured by said mortgage mature at a later date than, and cover a mileage at least twenty-five percent greater than is covered by any of the bonds secured by a prior lien mortgage so to be retired"[39].

Likewise, New York and Washington provide for a fixed-interest or income bond with the following section:

"Fixed interest bearing mortgage bonds..., income mortgage bonds, collateral trust bonds ..., or unsecured bonds, issued, assumed, or guaranteed as to principal and interest by endorsement by, and so guaranteed which guaranty has been assumed by, such railread corporation, the amount of earnings of which each year for at least five of the six fiscal years next preceeding such investment after deducting rent for hire of equipment and joint facility rents, if any, from gross income shall have such gross income as defined by the accounting regulations of the Interstate Commerce Commission, including interest on such income mortgage bonds, if any, and the net income of which after such deductions shall have been not less than $10,000,000 each year for at least five of the six fiscal years next preceeding such investment, and which railroad corporation shall have made the dividend and principal and interest payments hereinfore required"[40].

Limitations upon the funds which savings banks may invest in mortgage obligations of railroads are imposed by Maine, Minn-

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42. Massachusetts General Laws. Chapter 168, sec. 54, clause third, sub-sec. 4.
43. Washington Statutes. Chapter 74, laws 1929, sec. 165, d. New York Consol. Laws. Chap. 2, sec. 239, sub-div. 7, cl. e.

esota, New York, and Washington. All these states limit the amount invested to 25% of the deposits of a bank[41]. The limitations upon the purchase of equipment trust certificates are found in only five states and vary from 6% to 15% of the total deposits[42].

The statutes of Michigan and Ohio allow savings banks to invest in the first mortgage bonds secured by steel steamships to the limit of 50% of the actual value. Michigan limits the ships to those in action upon the Great Lakes, while Ohio sets no limit. The limit of funds which may be so invested is specifically set at 10% of the total deposits of the bank.

Public service companies include companies which manufacture and/or retail electric light current, artificial and/or natural gas, telephone companies, street railways, water companies, the whole group commonly known as public utilities. The latter term, however, will be restricted in its use to the inclusion of only electric light and gas companies.

Some states do not recognize the obligations of public service companies as suitable investments for savings banks[43]. In Alabama, Delaware, the District of Columbia, Maryland, Nebraska, and Utah, the decision of the choice of securities is left to the

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41. Oregon sets the limit at 10% of total deposits.
42. Connecticut sets the maximum at 6%, Massachusetts and New Jersey at 10%, Washington at 15%, Michigan at 25% of total deposits.
43. Florida, Indiana, Iowa, Mississippi, Nevada, Oregon, and Wisconsin.

individual boards of directors and trustees of the banks. No states make any restrictions regarding the location of the company whose obligations are desired[44].

In dealing with the issuing companies of bonds which may qualify as legal investments for savings banks, states emphasize the amount of gross income, the percentage of such income derived from the sale of products[45], the length of the franchise under which the company operates, the proportion of capital stock to funded debt, the net earnings[46].

The minimum revenue of a qualifying public utility company, i.e., one manufacturing or retailing electric current or natural and/or artificial gas, from a legislative point of view is approximately one million dollars annually[47]. Of this gross revenue between 75% and 85% of the total is expected to have been derived from the direct sale of products. Only Maine and Rhode Island make no provision of this character and thus allow investments in holding companies.

The duration of the franchise under which a public utility company operates is of prime importance since a sudden conclusion of the period of the franchise may cause bonds which would otherwise qualify as legal investments to be defaulted as unpaid obli-

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44. Rhode Island allows the obligations of Canadian public utility companies to qualify.
45. This is to prevent investments in holding companies.
46. Connecticut also dictates a depreciation policy by requiring a minimum reserve of at least 10% of the actual value of the property of the corporation.
47. New Jersey has $2,500,000, Maine $500,000, Rhode Island $200,000.

gations by the immediate bankruptcy of the company. The usual provision is for a franchise which extends longer than the term of the bonds and which does not entail more than a 25% fee for the operation of the company[48].

Several states have fixed the total amount of capital stock which may be issued by a company wishing to qualify its bonds as legal investments at less than 67% of the funded debt[49]. This provision, no doubt, deters some companies from contracting too many fixed obligations, with the resultant lack of sufficient working capital and the possibility of being unable to meet its fixed obligations should a sudden decrease in revenues occur.

The question of net earning in proportion to the total funded debt charges is one which receives the attention of almost all states which recognize public utility obligations as investments for savings banks. The common decision is that the margin of safety must be at least two, that is, the charges must be earned at least twice. This earning capacity must have been shown over a certain period of time, generally from three to five years. The summary of the conditions discussed is treated in Table XI.

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48. New Hampshire is the sole exception with 49% as the limit.
49. Connecticut, Massachusetts, Michigan, Minnesota, New York, and Pennsylvania.

TABLE XI. Statutory Limitations for Qualifying Public Service Bonds as Legal Investments for Savings Banks, 1922-1931.

State	Gross Income	% from Sales	Stock / Debt	Earnings / Charges	Time	Franchise after term & % income		Mtg. on __% all property	Holdings limit __% dep.
California				1½	12 mo.				
Connecticut	$1,500,000	75%	67%	2	5 yr.	5yr.	75%	75%	25%
Maine	500,000			2	3	3		75	35
Massachusetts	1,000,000	75	67	2	5			75	15
Michigan	1,000,000	75	67	2	5			75	10
Minnesota	1,000,000	75	67	2	5	5		100	20
New Hampshire	(Net) 500,000			2		3	51	67	20
New Jersey	2,500,000	85		2½	5			60	10
New York	1,000,000	75	67	2	5		75		
Ohio				Div.	5				
Pennsylvania	1,000,000	75	67	2	5	5	75	60	
Rhode Island	200,000			2	3				
Vermont	150,000			2	3				35
Washington	1,000,000	75		2				60	15

Sources: Laws of the states listed.

As to the type of bond, the first mortgage is popular, no other type of issue being allowed in most cases. The closed mortgage upon a portion of the properties is favored as is the open type mortgage upon the total properties within certain restrictions as to additions to the debt. An issue under a closed mortgage clause is one in which the issuance of any more bonds upon the same security is prohibited. An open mortgage allows the extension of the amount of bonds outstanding and the increase of the indebtedness upon all the properties which the company holds or may acquire. A closed mortgage has a security of 100% of the property it covers, while an open mortgage generally runs less in percentage. Three states, however, demand that the closed mortgage cover no more than 60% of the value of the properties mortgaged[50]. The general opinion allows open mortgages to 75% of the value of the properties, according to the state statutes[51]. The extension of the bonds against the certain property already mortgaged by an open type mortgage may not be made unless the charges for the outstanding and proposed debt together have been earned at least $1\frac{3}{4}$ times for 12 of the

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50. Connecticut, Massachusetts, and Pennsylvania.
51. The detailed analysis of this percentage appears in Table XI.

preceeding 15 months[52]. Other minor sections of state laws make restrictions which are not common[53].

The restrictions upon the size of holdings permitted of public utility bonds by savings banks very as shown in Table XI.

Water companies are designated as companies whose obligations may be purchased by savings banks in the states of Connecticut, Massachusetts, and Rhode Island. Maine and New Jersey class this type of public service company as a public utility and apply the laws already cited. The population of the community served by a water company is of importance for investment analysis of this type of company, since it gives an index of the demand for the product. Connecticut states the minimum population at 15,000, Rhode Island at 10,000. The franchise under which the company operates must extend at least the duration of the bond issue and give exclusive rights to the water service of the community. A 4% dividend on capital stock must have been paid by the company in addition to the interest on bonded indebtedness for at least the last three years before the purchase of the investment. The limit of funds which may be devoted to water bonds in Connecticut is 2% of the total deposits.

Street railways are defined as a public utility in Maine, Rhode Island, and Vermont, and as such are subject to the certain

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52. Connecticut, Massachusetts, and Michigan.
53. In the Connecticut, New York, and Pennsylvania statutes the minimum issue which may qualify is $1,000,000. Massachusetts statutes provide that the issue must have a thirty year term. The maximum issue in Maine is three time outstanding capital stock.

conditions set forth. In Connecticut and Massachusetts the traction company must be located within the confines of the state. The bond which qualifies under the provisions of these states must be a first mortgage on the property to 75% of the actual valuation of the property and extend over at least 75% of the properties of the company. A dividend of 4% on outstanding capital stock is a requisite for five preceeding years in Connecticut, a 5% dividend in Massachusetts. Connecticut again places a 2% limit upon the amount of deposits which may be devoted to traction securities.

Telephone companies receive particular attention in many states[54]. New Jersey classes both telephone and telegraph companies as public utilities. The usual revenue required of these companies is $5,000,000 annually[55]. The outstanding debt is limited to $1\frac{1}{2}$ times the capital stock outstanding according to the strictest statutes[56]. The earning should be sufficient to cover the fixed charges at least twice according to one set of statutes[57], while another requires a dividend test of at

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54. Connecticut, Maine, Massachusetts, Michigan, New Hampshire, New York, Pennsylvania, Rhode Island, and Vermont.
55. Connecticut raises this to $15,000,000, while Rhode Island and Vermont lower it to $1,000,000.
56. Michigan, New York, and Pennsylvania.
57. Maine, Michigan, New Hampshire, New York, Pennsylvania, and Rhode Island.

least 4% on outstanding capital stock for five preceeding years[58]. The security underlying the bonds must be a mortgage upon properties to 75% of their value, or a collateral trust agreement on securities of qualifying companies to 75% of the volume of the bonds issued, the interest on the deposited securities required to be sufficient to cover the interest requirements of the trust certificates at least $1\frac{1}{2}$ times. The limit of investments by savings banks in this type of security is usually 10% of the total deposits[59].

The bonds of the various industrial corporations of the country are rarely legal investments for savings banks. Few states recognize them as such, and where this is the case, rigid conditions and laws are set down. Mississippi allows investments in industrials to a very limited degree[60]. Two states, Rhode Island and Michigan, permit industrial corporations to issue mortgages secured by collateral composed of bonds which are already legal investments to 120% and 110% of the total issue of bonds. This, in effect, is an investment in the other types of bonds and is not a true investment in an industrial corporation. Ohio permits investment in the mortgage bonds, debentures, or collateral trust certificates of any industrial

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58. Connecticut, New York, and Pennsylvania. Massachusett's law requires that the dividends be 6% for the preceeding 5 years, and that the dividends "shall not have been less than the total amount necessary to pay the interest upon the entire outstanding indebtedness".
59. Connecticut and Massachusetts set 5% of deposits as maximum.
60. Letter of State Bank Commissioner to author.

company which has earned and paid its dividends for the preceeding five years, the earnings of which have been twice the interest charges on the outstanding bonds for four years, and which gives as security, in the first instance, a first mortgage to 50% of the actual value of the property. California combines the two attributes with a collateral trust certificate backed by 115% of legal bonds being able to qualify, and also first mortgage bonds of any company which has earned its fixed charges 1 2/3 times for the preceeding twenty years. Maine allows investments to 10% of the total deposits in the first mortgages of industrial companies which have earned $2,000,000 annually and paid interest charges 4 times, or have earned $10,000,000 net annually and have covered fixed charges twice. Oregon's statute is the most liberal in regard to industrialbond investments. The qualifying bonds may be first mortgages to 50% of the value of the properties of an industrial company which has earned the interest charges on its bonds and preferred stock twice in each of the three preceeding years. The limit of 5% of deposits so invested is made, however.

The legislators become cautious when they leave the field of debt obligations and enter the province of stock, or claims to profits from productive activity. Only three states permit investments in industrial stocks in the widest sense. Maine provides for commitment of funds in the stocks of industrial companies located within the state which have paid a 6% dividend for three preceeding years, and sets a limit of such investments at 5% of the total deposits. Rhode Island has enacted a statute which sanctions the purchase of the stocks of railways which have been leased to roads which fulfil all the qualifications necessary for the issue of "legal" bonds. The lease must extend over a period of at least fifty years and requires a 4% dividend to have been paid annually by the leased railroad. The limit of 2% of bank deposits so invested is made. New Hampshire is the most liberal state in regard to stock holdings by savings banks. Railroad stocks may be purchased if the road has paid dividends of 4% for the preceeding 5 years, if the gross income has been at least $10,000,000 annually, and if the net earnings have covered all fixed charges at least twice during the requisite period. Public utility company stocks are qualified if the company has had a gross income of $500,000 annually for the preceeding 5 years, has earned its fixed charges at least twice, and has paid a 4% dividend on all outstanding stock for the past five years. Telephone companies which have paid a 4% dividend for 5 preceeding years also qualify in New Hampshire.

Bank stocks form an important part of the holdings of many savings banks in states which permit such investments[61]. The provisions vary from the stock of any national bank and of any

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61. Connecticut, Florida, Massachusetts, Rhode Island, and Vermont.

state bank in the home state to very definite banks in specific cities[62]. Restrictions are sometimes placed upon the size of the bank whose stock may be owned, and often upon the amount of funds which may be devoted to the purchase of bank stocks[63].

Rhode Island enacted a singular statute in 1927[64].

> "(a) In the capital stock of any bank or trust company incorporated under the laws of the New England states, or of the state of New York, or of any national banking association doing business in any of said states.
>
> "(b) In the capital stock of any bank or trust company incorporated under the laws of any other state and doing business in any other state, or of any national banking association doing business in such other system, if such corporation is a member of the Federal Reserve System, and has a principal office located in a city of at least two hundred thousand inhabitants, according to the most recent United States census, and has an aggregate capital, surplus and undivided profits of at least $5,000,000 and has been in active business for at least ten years next preceeding the date of investment, including in the computation of said ten years, if the corporation results from the consolidation of two or more such corporations, the time during which any constituent corporation has been active".

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62. Florida: any Florida state bank or any national bank.
    Massachusetts: any bank in New England.
    Vermont: any Vermont state bank and any national bank.
    Rhode Island: any state or national bank in New England or New York, or any member of the Federal Reserve System.
    Connecticut: banks in Connecticut, or the cities of Boston, New York, and Philadelphia.
63. Massachusetts: 20% of total deposits.
    Vermont: 10% of total deposits.
    Connecticut: Banks of over $2,000,000 capital and surplus in the state, over $10,000,000 in the cities named, the total amount of holdings not to exceed 10% of deposits.
    Rhode Island: 25% of total deposits.
64. Gen. Laws, 1923. Title XXV, ch. 272, sec. 1, cl. vii, as emended by ch. 1034, P. L. 1927.

H. C. Bryant has stated the problem of the legislators in regard to the savings bank investments as follows:[65]

> "They (the legislators) must provide for the banker as safe, sane, and scientific a savings bank law as it is possible to provide".

Bryant states further, that the legislators have often succeeded and exhibits as proof the legislation of such states as New York, New Jersey, Massachusetts, Minnesota, and Washington. He states that the cardinal principle written into each of these laws is safety.

Table XII compares the legislation of these various states for all groups and forms an approximation of the main trend in the restrictions placed by laws upon the investment of deposits by savings banks. It will be noticed that Washington, Michigan, and Minnesota statutes are more or less copies of the earlier laws of the New England states.

The problem of the economic validity of these laws remains to be attacked. Can these laws provide for any contingencies which may result from a period of falling prices such as occurred in the period 1922-1931?

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65. H. C. Bryant, "General Principles for Investing Savings Bank Funds". American Institute of Banking Conferences. 1925. pp. 558-560.

TABLE XII. Selected Statutory Limitations on Investments of Savings Banks, 1922-1931.

TYPE OF SECURITY	New York	New Jersey	Massachusetts	Minnesota	Washington
Government Bonds					
United States	Yes	Yes	Yes	Yes	Yes
Canada	No	No	No	No	Yes
European	No	No	No	No	No
Miscellaneous	No	No	No	No	No
Guarantees	U. S.	No	No	No	No
State Bonds					
Home state	Yes	Yes	Yes	Yes	Yes
Any state	Yes	Yes	Yes	Yes	Yes
Default clause	90da. 10yr.	10 yr.	20 yr.	10 yr.	90da. 10yr.
Municipal Bonds					
Home state	Any	Some	Some	Any	Any
Any state	Some	Some	Some	Some	Some
Population	30,000		30,000	3,500	45,000
Issue % of tax val.	7%	10%	5%	10%	12%
Default clause	120da.25yr.	10 yr.	25 yr.		90da. 26yr.
Limit of holdings					
Railroad Bonds					
No. miles track	500		500	100	500
Gross revenue	$10,000,000		$15,000,000		
Fixed chgs. earned	$1\frac{1}{2}$				$1\frac{1}{2}$
Years Earned	9 of 10				5 of 6
% Dividends paid	$\frac{1}{4}$ fixed chgs.	4%	4%	4%	$\frac{1}{4}$ fixed chgs.
No. years paid	6	5	5	5	6
Limit of holdings	25% dep.			25% dep.	25% dep.

TABLE XII. Selected Statutory Limitations on Investments of Savings Banks, 1922-1931.
(Continued)

TYPE OF SECURITY	New York	New Jersey	Massachusetts	Minnesota	Washington
<u>Railroad Bonds</u>					
Equipment Trust	Any	Any	Any legal	Any	Any
Percent cost cover	80%	80%	80%	75%	85%
Limit of holdings		10% dep.	10% dep.		15% dep.
<u>Public Service Bonds</u>					
Utilities	Any	Any	Any	Any	Any
Gross income	$1,000,000	$2,500,000	$1,000,000	$1,000,000	$1,000,000
% from sales	75%	85%	75%	75%	75%
Franchise earnings	75%				
Stock/Debt	67%		67%	67%	
Net earnings	2 chgs.	2½ chgs.	2 chgs.	2 chgs.	2 chgs.
No. years earned	5	3	5		
Security by property	60%	67%	75%	100%	60%
Limit of holdings	10%*	20%	15%	20%	15%
Water companies	None	cf. Util.	Some	None	None
Traction companies	None	None	Some	None	None
Telephone companies	Some	cf. Util.	Some	None	None
Gross income	$5,000,000		$10,000,000		
Outstanding debt	1½ cap.		int. equal div.		
Earnings	2 chgs.		6% div.		
Security	60% mortgage		75% mortgage		
Limit of holdings	10% dep.		5% dep.		

* After 50% deposits are invested in real estate mortgages.

<u>Industrial Bonds</u>					
Any type	None	None	None	None	None

TABLE XII. Selected Statutory Limitations on Investments of Savings Banks, 1922-1931. (Concluded)

TYPE OF SECURITY	New York	New Jersey	Massachusetts	Minnesota	Washington
Stocks					
Railroad	None	Certain	None	None	None
Public Service	None	Certain	None	None	None
Industrial	None	None	None	None	None
Financial	None	None	N. E.	None	None

Sources: Laws of the states listed.

CHAPTER IV.

SAVINGS BANKS AND BONDS--- GOVERNMENT.

1. United States government obligations.

Savings banks, like other financial institutions, are large holders of the obligations of the United States government. United States bonds, treasury certificates and notes are the premier investments of these companies, considered as among the most liquid security investments. A ready market always exists for these securities because of purchases and sales by the Federal Reserve Banks through its open market operations.

Since the legal position of the holder of a government obligation in case of default is very weak, the security behind these bonds and notes rests upon the size of the flow of revenue from taxation in relation to expenditures. In view of the enviable record of the United States bonds since the funding of the government debt in 1789, because of the existing resources, even in periods of depression, the United States bonds and notes are regarded as almost riskless investments.

Table XIII compares the yields of the various types of government obligations with the holdings of savings banks during the period 1922-1931. It shows an increase in holdings to 1925; a slight drop in 1926, followed by a great fall in 1927[1].

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1. Attributable to the change from government bonds to municipals in Massachusetts in 1927.

TABLE XIII. Holdings of Government Bonds by Savings Banks in 15 Selected States, with yields on Treasury Notes and Bills, 1922-1931.

Year	Holdings (000's)	Percent of Investments	Yield on Treasury Notes	Yield on Treasury Bills
1922	$ 467,081	29.4%	4.35%	3.47%
1923	522,834	31.3	4.45	3.93
1924	581,690	34.1	4.09	2.77
1925	582,842	33.0	3.99	3.03
1926	480,059	26.8	3.95	3.25
1927	206,286	10.9	3.46	3.11
1928	181,443	9.0	3.44	3.97
1929	155,346	7.4	3.65	4.42
1930	128,046	5.9	3.40	2.23
1931	126,093	5.2	3.46	1.15

Sources: Annual Reports of the Comptroller of the Currency, 1922-1931.
Standard Statistics Bulletin. Base Book, Jan. 1932, v. 63, no. 7, sec. 3, and supplements.

The volume of government obligations held during the period of great financial speculation, 1927-1929, remained almost constant throughout. A similar trend is observed in the government holdings, deposits, and total investments between 1922 and 1925, but this trend turns about from 1925 to 1932 and there seems to be no relation between the bond holdings and the total investments or total deposits. Therefore, it appears that savings banks held such a quantity of government securities as was absolutely necessary to insure immediate liquidity.

One reason for the apparent neglect of government securities until 1930 is the higher rate on other types of securities. The trend of government bond yields is similar to that of other types of securities but is much lower. While the yield on United States Liberty bonds and Treasury notes varied about the 3.5% mark, a bank could scarcely pay its depositors 4% and 5% on deposits or 4% dividends to stockholders. Thus, only a minimum of government holdings would be held in the portfolio.

A second reason for the small holdings of government bonds by savings banks is found in their attractiveness for credit purposes of commercial banks and the Federal Reserve System. This extra-heavy demand during the latter part of the period 1922-1931 caused the rate of return to center about the 3.5% while other bond yields rose sharply.

The sharp decrease in government holdings in banks in part is attributable to the calling of a large amount of Liberty Loan bonds and the change from governments to municipals in Massachusetts. The holdings of banks are mostly long-term, since there is little need for such extremely short-term paper as treasury bills.

The conclusions which follow from this examination of the holdings of government bonds by savings banks are:

1. Government bonds were used primarily for purposes of safety, as an extremely liquid investment, and were only carried in amounts needed for purposes of safety.
2. Government bonds did not replace other types of securities after 1929 due to open market operations of the Federal Reserve System.
3. The insufficient return on government bonds caused this type of security to take a minor part in the portfolio of banks.

2. Government Instrumentalities.

Many states have acted favorably regarding investments of savings banks in securities of the Federal Farm Loan Banks, Joint Stock Land Banks, and in two cases State Agricultural Credit Corporations. Prior to 1916 the principal sourced of funds for long-term mortgage loans on farm properties were eastern banks and other financial institutions which made large investments and could spread the risk of holding this relatively unliquid type of investment. Following the enactment of the Federal Farm Loan Act in July, 1916, the Federal Land Bank and the Joint Stock Land Bank were set up under Federal control. Although the bonds of these institutions are not guaranteed by the Federal government, they are considered as instrumentalities of the government of the United States, and are exampt from all taxes except estate and inheritance levies. There is also a felling among bankers that the government would give strong aid in case of default in any of these bonds[2]. The bonds of the Federal Land Banks, as well as the capital stock of such institutions, are, therefore, considered legal investments by many states.

When tested in a period of falling prices, the Federal Farm Loan bonds show a tendency to yield greater returns. Although there is no index available for such securities, the price range since 1925, the peak year for real estate speculation, has been downward. However, the yield is still below that needed to cover operating costs of banks. This factor makes the holdings of this type of security small. These obligations are included in the general classification of government securities, but have a relatively doubtful liquidity, and therefore, have little place even theoretically in a bank's portfolio.

Joint stock land banks are essentially private corporations and are really similar to other types of banks, except that they are under government auspices. These banks issue bonds upon farm mortgages deposited with the Federal Farm Board to 15 times their capital and surplus. Although regulated by the Board, the banks are not connected with the government in any way. The bonds of such organizations, therefore, will sell at a great

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2. cf. statement by C. E. Hughes quoted in R. E. Badger, Investment Principles and Practice, p. 616 footnote. New York, Prentice-Hall, 1928.

discount in a period of depressed farm land prices such as existed after 1925. Because most of these institutions have defaulted upon their obligations and very few of the bonds find any market within a reasonable price, it is possible that savings banks have avoided such securities. The yield on these bonds is high, the risk is also high, the marketability is limited, and on this account they are scarcely compatible with the idea of secondary reserve assets. In this type of security the legislators provided what they though, and what was at the time, i.e., before 1923, a liquid form of legal investment. However, real estate values were rising, and the liquidity of these securities was markedly affected in the following period of an opposite price movement in land values.

3. Foreign Bonds.

Many states approve the purchase of the bonds of foreign governments. One state approves the purchase of the municipal bonds of foreign municipalities by savings banks.

There was no separate division of foreign securities in the reports of the Comptroller of the Currency until 1929. Since the legal lists of foreign bonds which qualify are available in only three states, Connecticut, Maine, and New Hampshire, and most of those listed are the bonds of the Canadian Provinces, the return on these bonds will be considered equal to that received when the bonds are selling at par value. The British bonds listed by Connecticut all sold at a slight discount (relative to the exchange rates) while French bonds, after selling at discount, ended the period selling at premium. All other foreign bonds eligible for investment turned slowly toward a price which was below par, some even falling to 50% their face value.

Any change in political affairs usually causes some fluctuations in the market price of foreign government obligations, at least until certainty about the new government becomes current. A revolution in South America may bring with it a repudiation of all outstanding bonds. The creation of a dictatorship in a Europeam country may raise a discounted bond to the status of a premium obligation. In addition to the political status within the country, the economic outlook is of fundamental importance. Unless a bond is specifically stated to be payable in fixed weight and fineness of gold, the question of foreign exchange rates is a factor to be considered. Even when the payment is to be made in gold, the possibility of the revaluation of the gold dollar must be taken into account. The tax situation must also be investigated. The American tariff policy may play an important part in the market price of such securities since it may mean that the country cannot trade freely abroad. The purpose of the loan is of importance since an unproductive end may ruin the future marketability of a bond issue. Because of all these considerations it is important for states to supervise the purchase of foreign bonds quite closely.

Table XIV makes no division of the foreign bond holdings into the various countries. A minimum of securities of economically and politically stable foreign nations might be held. A government with a budget balanced in depression periods can collect taxes and meet the obligations on interest accounts. Its balance of trade must be favorable to keep its standard money at par and the less thought about inflation as a means of scaling down debts the better.

In a period of falling prices, foreign bonds yield a higher rate as is usually the case with home government issues, since the income is less, the fiscal problems becoming more involved. Where the attractiveness of yield does not compensate for the risk involved in foreign loans, such obligations have no place in the bank's portfolio. They may become non-liquid in the full sense of the term.

The bonds of Canada are more closely linked with those of the United States than those of any foreign nation. New Hampshire emphasizes this feature by designating any bonds guaranteed by the Dominion as legal investments in that state.

The summary of the examination of foreign bonds is:

1. Foreign bonds have a place in the portfolios of only large savings banks.
2. The holdings of foreign securities should be constantly supervised by a state securities commission, differentiating between short-run and long-run tendencies in the political and financial status of foreign governments.
3. While yields may be attractive, the place of foreign bonds in a period of falling prices becomes questionable, and, consequently, such holdings should be kept

at a low figure in relation to total investments.

4. The legislation of states permitting foreign securities to be held by savings banks is generally adequate.

TABLE XIV. Holdings of Foreign Bonds by Savings Banks in 15 Selected States, 1929-1931.

Year	Holdings (000's)	Percent of Investments
1929	$66,171	3.1%
1930	70,671	3.2
1931	73,508	3.1

Source: Annual Reports of the Comptroller of the Currency, 1929-1931.

CHAPTER V.

SAVINGS BANKS AND BONDS--- STATE & OTHERS.

1. Municipal Bonds.

The term "municipal bond" in contrast to "government bond" applies to the obligations of states, counties, municipalities, and other political subdivisions. Although classified together, there are certain types which might be classified separately, e.g., state bonds, bonds of municipalities, bonds of counties, bonds of political subdivisions.

State bonds are similar in character to those issued by the Federal government. These debts rest on the good faith, willingness, and capacity of states to pay their obligations when due. Only five states allow individuals to sue the state to compel it to pay off any defaulted bonds[1]. In contrast to the sovereign position of states, minor divisions, counties, cities, towns, and other incorporated districts are creatures of the state. They are created by the state and occupy a subordinate legal position to the state. This subordinate position allows the individual citizen to sue the municipality and the other divisions of the state without their consent and compel a levy of taxes sufficient

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1. Indiana, Wisconsin, Nebraska, Nevada, Mississippi. However, the Eleventh Amendment is a convenient refuge for these states. "The judicial power of the United States shall not be construed to extend to any suit in law or equity, commenced or prosecuted against one of the United States by citizens of another state, or by citizens or subjects of any foreign state".

to pay the principal and interest of the defaulted bonds, within the limits defined in state constitutions and charters of municipalities. If the taxes are insufficient to meet the expenses, the only recourse is default. For this reason many investors avoid the obligations of states and municipalities whose tax rates are near the maximum allowed by statute which explains the higher yield received from such securities.

At the present time, state and municipal bonds are considered as second to Federal obligations in safety, and as a result the yield is only slightly above that on Treasury bonds.

In the examination of state bonds and their investment position it is of importance to investigate the financial aspects of the state in a fashion similar to the analysis of the conditions of governments. One of the most important factors in the determination of the investment value of a state bond is the relative difficulty in meeting obligations. This depends mainly upon the volume of the issue and the rate of taxation necessary to meet interest and principal payments in relation to its assessed valuation of property in the state. Most states obtain the bulk of their income through property taxes. The tax rate in proportion to the value of the taxable property is of greater importance than the rate of taxation since the point of maximum return derived from fiscal revenue may have already been reached. The debt per capita is often used as a supplementary measure of the ability of a state to pay its debts. The income of any state, its wealth, its economic resources, the character of the population are all fundamental considerations.

The obligations of municipalities and the divisions of a state are subject to slightly different analyses. One of the most important factors determining the place of a municipal investment in any portfolio is the restriction made upon the borrowing operations of the municipality. All states by means of statutes or constitutional provisions have restricted the powers of cities, counties, and smaller divisions to borrow. The restrictions are not only of amount, but form of the obligation as well. Some states require serial bonds, others a referendum, still others the terms of bonds. A second requisite is the legality of any issue of a municipality. The economic status of the city is a third factor which must be investigated. The tax rate, the value of assessed property, the budget of the municipality, the relation to county bonds of city and town bonds, the purposes of the bond issue, the probability of payment; all these are essential in the determination of the value of a municipal security.

City bonds often yield less than county bonds because the town or city enjoys a full taxing power and is a more highly organized unit of government. All municipal bonds are exempt from Federal taxation except inheritance taxes, and are often exempt from state and local taxes. These provisions act to raise the price and lower the yield of such securities.

The exemption from taxes as well as the inherent safety which municipals enjoy as a class permits them to sell at somewhat lower yields than high grade utilities and railroads in general. In some certain cases, especially where rates of taxation are at a maximum, municipals may fall below public service bonds in yield. In view of the rapid extension of income taxes, the future yields on municipals will represent only the additional safety in the issue. All municipals vary in general with the money market, which will cause a high yield in periods when money is at low rates, and to sell at par in periods of industrial prosperity. For this reason they become a detriment to savings banks in periods of falling prices if full liquidity is imperative.

An investigation of the yields of municipal bonds shows that the average over the whole period, 1922-1931, has been slightly over 4%. Table XV shows that the lowest return was 3.98% in 1927; the highest 4.27% in 1929. The trend was definitely downward in character from 1922 through 1927 and since then has turned slightly upward. This trend is also characteristic of the whole list of bonds of all types. The index of municipal bonds is based upon fifteen issues which are legal investments in New York, Maine, and Massachusetts (cf. Table XVI) states publishing lists of the municipalities which may offer securities as legal investments for savings banks.

The downward trend of yield in municipal bonds from 1922 to

TABLE XV. Holdings of Municipal Bonds by Savings Banks in 15 Selected States, with yields on municipal bonds, 1922-1931.

Year	Holdings (000's)	Percent of Investments	Yield
1922	$227,266	14.3%	4.23%
1923	195,859	11.8	4.25
1924	155,056	9.1	4.20
1925	150,751	8.5	4.09
1926	217,028	12.1	4.08
1927	459,302	24.4	3.98
1928	470,041	23.2	4.05
1929	501,255	23.5	4.27
1930	466,952	21.2	4.07
1931	499,455	20.9	4.01

Sources: Annual Reports of the Comptroller of the Currency, 1922-1931.
Standard Statistics Bulletin. Base Book, Jan. 1932. v. 63, no. 7, sec. 3, and supplements.

TABLE XVI. Bonds Used in Computation of Municipal Bond Index and States in Which the Issues Qualify as Legal Investments for Savings Banks, 1931.

TITLE	Conn.	Me.	N. Y.	Mass.
Baltimore $3\frac{1}{2}$s, 1945	Y	Y	Y	Y
Boston $3\frac{1}{2}$s, 1945	Y	Y	Y	Y
Cincinnati $4\frac{1}{2}$s, 1955	Y		Y	Y
Indianapolis 4s, 1941	Y		Y	
Los Angeles 4s, 1945	Y		Y	Y
Milwaukee 5s, 1940		Y	Y	Y
Minneapolis 4s, 1944	Y		Y	Y
Nashville $4\frac{1}{2}$s, 1940			Y	Y
Newark (N. J.) $4\frac{1}{2}$s, 1959			Y	
New York (Rapid Transit) $3\frac{1}{2}$s, 1950		Y	Y	
Philadelphia 4s, 1966			Y	
Pittsburgh $4\frac{1}{2}$s, 1950			Y	Y
Portland (Ore.) $4\frac{1}{2}$s, 1943			Y	Y
Richmond $4\frac{1}{2}$s, 1964			Y	Y
St. Louis 4s, 1950	Y	Y	Y	Y

Source: Standard Statistics Bulletin. Base Book, Jan. 1932. v. 63, no. 7, sec. 3, and supplements.

1927 may be attributed to the increased income of the cities from taxation and the preference which the public showed for this type of obligation. Table XV shows that the savings banks sold bonds until 1925. The holdings were increased in 1926 and 1927, attributed to the change in Massachusetts from government to municipal bonds. The downward trend, therefore, cannot be attributed greatly to the demand by savings banks with the possible exception of 1927, when the great change occurred in Massachusetts. However, a demand of $200,000,000 of bonds may have caused the temporary drop in yield below the average 4%. The savings banks held about 10% of their investments in municipals from 1922 to 1927 and about twice this amount thereafter, with a downward tendency noticeable. The savings banks, therefore, would seem to be adverse to holding municipals, for with the trend of yield moving upward, the relative percentage of municipals held was decreasing steadily. When the totals of both government and municipal bond holdings are added a general trend downward in percentage and fairly constant inamount appears, as shown in Table XVII. This would suggest that the savings banks view municipals as prime liquid assets and not as earning investments.

The legislation regarding municipal investments by savings banks appears to be adequate and valuable. The place of such bonds in a portfolio is not questioned since the element of safety is present. With the present legislation, it appears

TABLE XVII. Holdings of Government and Municipal Bonds by Savings Banks in 15 Selected States, 1922-1931.

Year	Holdings (000's)	Percent of Investments
1922	$694,447	43.7%
1923	718,693	41.6
1924	735,646	42.1
1925	731,573	40.8
1926	697,087	40.8
1927	665,588	34.8
1928	651,484	32.4
1929	656,601	30.8
1930	595,098	27.1
1931	635,341	26.7

Source: Annual Reports of the Comptroller of the Currency, 1922-1931.

that the savings bank directors and trustees carried only a minimum of municipals since the yield was not sufficient for the needs of the time. The period 1922 to 1931 saw a tendency to keep the amount of municipals in the banks' portfolios about constant in value with a slightly downward percentage tendency.

The position of state and municipal bonds in the portfolios of savings banks may be summarized as follows:

1. The state and municipal governments are integral parts in the political structure of the nation. Therefore, the bond issues of these minor governmental divisions are of fundamental importance in the portfolios of savings banks.
2. The yield on state and municipal bonds from 1922 to 1931 was insufficient for the operating expenses of the banks. This insufficient return helped to keep the amount of these types of bonds held by banks fairly constant while the ratio of total investments decreased. (This excludes the effected of the change of Massachusetts banks from government to municipal bonds in 1927.)
3. State and municipal bonds are affected in varied manners by falling prices, depending upon the fiscal policy of the sponsoring state. If the disproportionate share of the income can be reached by taxation, the short-run may see an improved position of the bonds with a lower yield. In the long run, however, the period of readjustment will affect the bonds adversely causing a higher yield.
4. Legislation regarding state and municipal bonds has been very adequate and consistent with investment theory.

2. Railroad bonds.

Railroad securities have been considered sound investments since 1800. This may be attributed to several factors, (a) the size of the industry, (b) the volume of securities outstanding, (c) the indispensible character of its services, (d) the stability of its earnings, and (e) property values. For savings banks the last feature is of prime importance since it insures to a degree the payment of interest and principal when the obligations become due. Railroads may be classed as a form of public service industries, since they have somewhat of a monopolistic character. This characteristic, all other things being equal, insures a stability of income and steady value of the properties owned, a factor lacking in most industrial bonds.

The tendency of railroad legislation and the practice of the Interstate Commerce Commission has been to decrease the earnings of railroads through a reduction of the rates which may be charged. This, combined with increasing costs, especially for labor, has resulted in an impairment of railroad credit at the end of the period under consideration.

In determining the investment value of a railroad security, a series of analyses and comparisons must be made. The first study deals with the location of the road, the character of the territory served, the nature of the country through which the road runs, the industrial development along the route. The second study should treat of traffic density since the amount of earnings will depend upon the income. A great amount of freight carried over a short line will naturally yield a greater net income than a similar amount of traffic over a transcontinental right of way. The relation of passenger to freight traffic is important also since the real earning capacity of most railroads lies in its freight volume. The third study should include a measure of the risk involved. One such measure may be taken as the bonded indebtedness per mile of road; a second the position of the obligation in case of foreclosure. The holding companies have complicated the measurement of good railroad securities to a degree, since they may be composed of poor roads as well as good. The underlying mortgages must be carefully examined in all cases and especially for roads combined in a holding company.

The legislation of the various states seems fairly adequate to allow the individual bankers to deal with the problem of selection for their own needs. The listing of the number of bonds which may be held is of great value since it eliminates guessing and hazard to a minimum.

Table XVIII shows the bonds composing an index of railroad bonds which yield about 4% annually. All fifteen bonds which compose the list are represented on some lists of the eight states making lists, and all except one qualify in experts' opinion for New Jersey and Pennsylvania which publish no lists. The yield on railroad bonds was similar to the trend for all bond issues, downward until 1927, then moving slowly upward.

The tendency of railroads, as of all public service company securities, has been to be benefited by a slight fall in prices and so long as business conditions do not change too markedly. This tendency is the result of constant income prices while the raw material prices are declining as a rule. The wage element, however, worked against railroads greatly during the period under observation. As a result the position of railroad secur-

TABLE XVIII. Bonds Used in Computation of Railroad Bond Index and States in Which Issues Qualify as Legal Investments for Savings Banks, 1931.

TITLE	Conn.	Me.	N. H.	N. Y.	Mass.	Mich.	Minn.	Vt.	N. J.*	Penn.*
Atchison, Topeka & Santa Fe Ry. Co., 4s, 1995.	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
Atlantic Coast Line R. R. 4s, 1952.	Y		Y	Y	Y	Y	Y	Y	Y	Y
Baltimore & Ohio R. R. Co. 4s, 1948.	Y			Y	Y	Y	Y		Y	Y
Chesapeake & Ohio Ry. Co. 4½s, 1992.	Y	Y	Y	Y	Y			Y	Y	Y
Chic. Burlington & Quincy R. R. Co. 4s, 1958.										
Chic., Rock Island & Pac. Ry. Co. 4s, 1988.				Y		Y	Y			
Illinois Central R. R. Co. 4s, 1955.	Y			Y	Y	Y	Y	Y	Y	Y
Lehigh Valley R. R. Co. 4s, 2003					Y		Y		Y	Y
N. Y. Cent. & Hud. River R. R. Co. (N. Y. Cent.-Assum.) 3½s, 1997	Y			Y	Y			Y	Y	Y
Norfolk & Western Ry. Co. 4s, 1996.	Y	Y	Y	Y	Y		Y	Y	Y	Y
Northern Pacific Ry. Co. 4s, 1997.			Y	Y			Y	Y	Y	Y
Pennsylvania R. R. Co. 4½s, 1960.	Y	Y	Y	Y	Y		Y	Y	Y	Y
Southern Pacific R. R. Co. 4s,1955	Y		Y	Y	Y	Y	Y	Y	Y	Y
Southern Ry. Co. 5s, 1994.	Y			Y	Y					Y
Union Pacific R. R. Co. 4s, 2008	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y

* Opinion of Standard Statistics Company.

Sources: Standard Statistics Bond Investments--Legal Section (General). v. 2, no. 46, pt. 2, July 30, 1932. Lists of Qualifying Securities of all states listed except New Jersey and Pennsylvania.
Standard Statistics Bulletin. Base Book, Jan. 1932. v. 63, no. 7, sec. 3, and supplements.

ities was weakened very much by constant cuttings of the rates which may be charged. This is one apparent cause for the great increase in returns for railroad securities in 1931, since many companies were forced into default by lack of income sufficient to pay existent wage rates and to cover all fixed charges.

The reports of the Comptroller of the Currency divide the securities investments of savings banks with a provision for railroads until 1929, but after that year bulks rails with public utilities as public service securities. The tendency of holdings by savings banks from 1922 through 1929 was to decrease the percentage slightly, although the total amount held was increased almost $100,000,000 in the seven years, as shown in Table XIX. The conclusion seems to follow that banks followed the practice of decreasing the percentage invested in railroad bonds throughout the period, as will be shown when the latter part of the period is considered in connection with public utilities. This decrease may have been the result of the declining margins of safety during the period.

The legislation regarding the savings bank investments in railroad securities has been seen to be quite adequate under normal conditions. The tendency of banks to diminish the percentage held in rail securities was the result of legislative action and the inelasticities of certain factors of production, especially labor. The bankers were exceedingly wise in this action since the conditions presaged a fall in the liquidity of

TABLE XIX. Holdings of Railroad Bonds by Savings Banks in 15 Selected States, with Index of Yield on Railroad Bonds, 1922-1928.*

Year	Holdings (000's)	Percent of Investments	Yield
1922	$614,005	38.7%	4.85%
1923	598,970	35.9	4.98
1924	621,497	36.4	4.78
1925	646,078	36.7	4.67
1926	656,684	37.1	4.51
1927	665,684	35.3	4.31
1928	701,304	34.6	4.34

* Holdings for 1929-1931 included in Table XXII, because no separate division was made in the sources for these years.

Source: Annual Reports of the Comptroller of the Currency, 1922-1928.
Standard Statistics Bulletin. Base Book, Jan. 1932. v. 63, no. 7, sec. 3, and supplements.

railroad bonds. The great volume of holdings which are still in portfolios may be attributed to the importance of railroads in the financial structure of the nation, and also to the yield which is sufficient to cover the interest charges on deposits and also the costs of operation for the savings banks.

The position of railroad bonds may be summarized as follows:

1. Railroad bonds constitute obligations of an important industry of the United States and the reputation of these securities as a whole justifies a position for them in savings bank portfolios.
2. The banks held an increasing amoung of railroad bonds from 1922 to 1931, but the proportion to total investment declined. This procedure evidently occurred as a result of decreasing margins of safety.
3. The position of railroad companies is generally improved by falling prices since income remains fairly steady while costs decrease. Railroad bond yields should decline with a falling price level.
4. The legal provisions for qualifying bonds are generally satisfactory and consistent with investment theory.

3. Public Service Bonds.

As has been explained, public service bonds include the obligations of the public utilities, i.e., gas and electric companies, and those of telephone, water, and electric railway companies. In the analysis railroads of the steam type will be included for the period 1929-1931.

Despite the great variety of public service corporations, there are certain points of similarity. These may be grouped under four headings: (a) all perform a particularly important service; (b) all operate under conditions which tend toward monopoly, i.e., under increasing returns; (c) all enjoy special legal privileges in the form of franchises and eminent domain;

(d) all perform services which are sometimes given as governmental functions. Because of these characteristics, public service corporations are subject to public regulation by the state. It is obvious, therefore, that the investment offunds in public service companies must be made only after a close examination of the nature of control exercised over the companies by the state. The problems of franchise, rates, and valuation have been the subject of many discussions in corporate finance. It is sufficient to say that the franchise must be absolute in its power to operate at least through the length of the bond issues and to allow the company a major part of the income. The rates should be sufficient to give an adequate return on the invested capital according to all rate-making commissions. The valuation of properties depends almost wholly upon the method of fixing rates and does not figure greatly except as a factor in limiting the size of bond issues.

Public service securities as a class must be given a high investment standing. The one notable exception is the electric railway industry, but on the whole, public service companies have been very important. The stability of public service investments arises from the nature of the industry and the existence of public control. The fact that quasi-monopoly conditions exist eliminates many of the competitive hazards present in the industrial field. Fluctuations of inventory values are eliminated to a great degree by a minimum of inventories held at any given time. The credit risk is minimized by the necessity of the services performed, a fact which also serves to accurately forecast demand and allows a plan for extensions over a period of time to be made.

The legislation of the states which have permitted investment of savings bank funds in public service corporations has been adequate in theory. It has taken into consideration all the prerequisites which the bankers have outlined in respect to their selection of bonds.[2] Thus, if any adverse tendency is to be found during the period of 1922-1931, the fault is entirely with the bankers.

Table XX shows the fifteen bonds composing an index of public service bond yields. Twelve of the fifteen bonds are legal investments in some states, and nine are qualified in most states which give a list of securities. This list if fairly representative and may thus be taken as an adequate, though not perfect, index of the entire holdings of savings banks.

Table XXI shows that the yield on public utilities throughout the whole period 1922-1931 was downward. In comparison with other yields of other types of bonds, public service bonds began the period about two-thirds of 1 percent above rails and municipals, but by the end of the period had approached within one-quarter of one percent of the municipal index and had equalled the railroad yield. This tendency has been noticeable throughout the century. The growing popularity of public ser-

TABLE XX. List of Bonds Used in Computation of Public Service Bond Index, with States in Which Issues Qualify as Legal Investments for Savings Banks, 1931.

TITLE	Conn.	Me.	N. H.	N. Y.	Mass.	Mich.	Minn.	N. J.*	Penn.*
American Tel & Tel. Co. 5s, 1946.	Y	Y	Y		Y				
Bell Tel. of Penna. 5s, 1960.	Y	Y	Y	Y	Y		Y	Y	Y
Brooklyn Edison Co. 5s, 1949.	Y	Y	Y	Y	Y	Y		Y	Y
Central District Tel. Co. (Bell Tel. of Pa.-Assum.) 5s, 1943	Y	Y	Y	Y			Y	Y	Y
Cinn. Gas & Elec. Co. 4s, 1968.			Y					Y	
Columbia Gas & Elec. Co. 5s, 1942.									
Commonwealth Edison Co. 4s, 1981.			Y					Y	
Duquesne Light Co. 4½s, 1967.	Y	Y	Y	Y			Y	Y	Y
Massachusetts Gas Co. 5s, 1955.									
Montreal Tram Co. 5s, 1941.									
New England Tel. & Tel. Co. 5s, 1952.	Y	Y	Y	Y	Y			Y	Y
N. Y. Gas, Elec. Lt., Heat & Power Co. (N. Y. Edison-Assum.) 5s, 1948.	Y	Y	Y	Y	Y	Y		Y	Y
Peoples Gas, Lt. & Coke Co. 5s, 1954.	Y	Y	Y	Y				Y	Y
Southwestern Bell Tel. Co. 5s, 1954.	Y	Y	Y	Y	Y			Y	Y
Western Union Tel. Co. 4½s, 1950.			Y						

* Opinion of Standard Statistics Company. Legal Section (General), v. 2, no. 46, pt. 2, July 30, 1932.

Sources: Lists of Qualifying Securities for all states except New Jersey and Pennsylvania.
Standard Statistics Bond Investments. Legal Section (General). v. 2, no. 46, pt. 2, July 30, 1932.
Standard Statistics Bulletin. Base Book, Jan. 1932. v. 63, no. 7, sec. 3 and supplements.

TABLE XXI. Holdings of Public Service Bonds by Savings Banks in 15 Selected States, with Index of Yield on Public Service Bonds, 1922-1928.*

Year	Holdings (000's)	Percent of Investments	Yield
1922	$143,030	9.0%	5.46%
1923	150,895	9.0	5.41
1924	219,435	12.7	5.22
1925	240,630	13.7	5.06
1926	278,315	15.5	4.90
1927	377,971	20.2	4.78
1928	480,064	23.7	4.68

* Holdings for 1929-1931 included in Table XXII, because no separate division was made in the sources for these years.

Sources: Annual Reports of the Comptroller of the Currency, 1922-1928.
Standard Statistics Bulletin. Base Book, Jan. 1932. v. 63, no. 7, sec. 3 and supplements.

vice bonds as investments, the crystallization of ideas of public control, the growth of recognition by states as "legal" bonds for savings banks, all helped to bring about this downward trend in yield. The period after 1922 was extremely fortunate for public service companies on the whole, since prices of wholesale commodities were inclined negatively, a favorable position for any industry for which the selling price of its services or commodities is relatively fixed. The increased demand for the services of these companies has helped to stabilize and build up incomes. The mushroom growth of holding companies in the public service field gave expression to the trend of importance which the public has given to the operating companies engaged in this field.

The trend of public service holdings by savings banks in their portfolios has shown an upward character in both amount and in percentage of total investments. The holdings in 1928, the last year of an individual record of this industry in the reports of the Comptroller of the Currency, were over three

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2. (a) It is assumed that gross property values will normally be between 4 and 5 times gross revenues.
(b) On this basis, assuming a normal operating ratio of between 50 and 60 percent, charges should range from 23 to 30 percent of the gross.
(c) Net earnings should cover charges at least $1\frac{3}{4}$ times.
(d) The company should have at least $500,000 gross earnings, except in the case of telephone companies which should be $1,500,000 annually.
(e) Less than 10% of the gross should be obtained from the greatest customer.
(f) The franchises should be satisfactory.
(g) The investments should be limited to operating companies.

times the amount held in 1922, and the proportion invested had increased about 2.5 times. The increase cannot be laid to a change in statutes to permit investments in public service companies, since only 2 states amended their statutes since 1922 in this effect, and the total holdings in these states in 1928 was only $226,000. The popularity of public service bonds can only be attributed to the yield available and the safety of the principal. The yield of 4.60% for 1931 was still sufficient to pay the average interest rate on deposits of 4% and also to cover the costs of operation of the bank.

The combining of public service bonds with those of railroad companies in 1929 has slightly complicated the problem of analysis. We may get some measure of what has happened, however, by combining the years 1922-1928 and securing a trend throughout the period under observation. This trend as shown in Table XXII has been upward in character in both amount of total holdings and in proportion to total investments. Since this was also the trend for the public service bonds alone, while the holdings of railroads had slightly increased in volume, but had decreased in proportion to total investments, the conclusion seems to show that the individual trends for each of the subdi-

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(h) The securities should be a direct lien upon property, except where collateral consists of an issue of first mortgage bonds.
Bulletin Investment Bankers Association of America. 5: 31-49, Oct. 18, 1916.

TABLE XXII. Holdings of Service Company Bonds by Savings Banks in 15 Selected States, with Indexes of Yields on Railroad and Public Service Bonds, 1922-1931.

Year	Holdings (000's)	Percent of Investments	Yield R. R.	Yield P. S.
1922	$ 756,035	47.6%	4.85%	5.46%
1923	749,775	44.9	4.98	5.41
1924	851,432	49.9	4.78	5.22
1925	886,708	50.4	4.67	5.06
1926	935,999	52.1	4.51	4.90
1927	1,038,924	54.9	4.31	4.78
1928	1,181,488	58.3	4.34	4.68
1929	1,187,822	55.7	4.60	4.86
1930	1,257,973	57.5	4.39	4.64
1931	1,377,602	57.6	4.62	4.60

Sources: Annuel Reports of the Comptroller of the Currency, 1922-1931.
Standard Statistics Bulletin. Base Book, Jan. 1932. v. 63, no. 7, sec. 3, and supplements.

visions of the service industries has continued. This is adequately shown in an examination of the percent of investment column of Table XXII. The trend percentages of the service industries combined is less than the upward trend of the utilities alone. The negative character of the rails, therefore, has had a leavening effect upon the whole curve for the service industries but not of sufficient force to overcome the strength shown by the public service companies themselves.

The study of the service industries has shown that the provisions of legislators has generally been consistent with the theory of investments. The bankers have applied the provisions with caution and have successfully invested their funds in these industries in the period under consideration. One hesitates to say, however, what the reaction to a period of positively inclined or rising price levels would be among bankers and legislating officials alike.

The discussion of public service company bonds may be summarized somewhat as follows:

1. The increased industrial use of the services furnished by public service companies has raised the bonds of these companies to an important place in the financial framework of the nation. The bonds of public service companies are generally accorded a place in savings bank portfolios.
2. The amount of public service company bonds held by savings banks increased greatly as did the proportion of such holdings to the total investments of savings banks.
3. Public service companies are improved in financial position in a period of falling prices. Costs decrease while income remains fairly constant. The bond yields, therefore, should decrease until the

period of readjustment is reached when they are likely to react.

4. The legislation regarding the investment of savings bank funds in the bonds of public service companies has been adequate and conservative in most cases.

4. Industrial Bonds.

Although seven states have provided by statute for investment of savings bank funds in the bonds of industrial corporations, three of these states make the provision effective only for collateral trust bonds with securities which are legal in other fields[3]. This action makes the investment really one in bonds of other types.

Table XXIII gives the yields of fifteen industrial bonds from 1922 to 1931. This index gives a slight picture of the return on qualifying securities of this type. There are no statistics for the actual holdings of banks in industrial bonds available. Only a deduction of approximate tendency can be made.

Industrial bonds are the bell-wether of the bond market. They are subject to changes of conditions of business and finance. They are obligations of companies which are in many cases direct

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3. Maine, Oregon, and to a limited degree Mississippi, allow investments in all industrial companies qualifying. California and Ohio have in addition to mortgages, a collateral provision, while Michigan and Rhode Island allow only collateral trust debenture bonds as legal investments for savings banks.

TABLE XXIII. Index of Yield on Industrial Bonds, 1922-1931.

Year	Yield
1922	5.21%
1923	5.26
1924	5.21
1925	5.06
1926	4.91
1927	4.83
1928	4.88
1929	5.48
1930	4.95
1931	5.51

Source: Standard Statistics Bulletin. Base Book, Jan. 1932. v. 63, no. 7, sec. 3, and supplements.

competitors with each other, and measure the strength of the advertising power which the company exerts upon the buying public. The market prices of bonds of industrial corporations are generally affected in the same direction as the character of the price level. For the period under observation, therefore, the prices should have fallen. Frustrating this trend was the great speculation and market trend of 1929, the tendency in 1922-1931 remaining only slightly downward, with a sharp reaction and recovery toward the end of the period.

Industrial bonds have a place in the portfolios of savings banks only when the issuing company is the recognized leader in its field, when there is little likelihood of being displaced by technical advance or improvements within the life of the bond, when the security behind the bond is much better than simply the earning power either actual or apparent of the borrowing company. In addition, industrial bonds are bettered in their position only in periods of rising prices. Therefore, bankers should have been cautious in investing in this type of security during the period under discussion although the yield was much greater than that which could be received from any other type of debt obligation.

The laws of the various states seem to be confused as to what constitutes a good company. The state of Maine is perhaps the best from the practical point of view since only a leader in its field can consistently fulfill the qualifications demanded.

The lengthening of the period of probation in which the company must earn a certain ratio of charges will probably help in the determination of which companies are affected by the minor cycles and which are substantially built to weather temporary financial and business difficulties. Of course, the management problem must always remain the keystone of all industrial analysis and any radical changes of policy might affect the obligations greatly. The safest manner to prevent such an occurence might be to limit the percentage of deposits which may be placed in industrial bonds to a maximum of about five percent, with no more than ten percent of this total in any one company's issues.

The position of industrial company bonds may be summarized as follows:

1. Industrial companies are subject to wide variations in business activity. The bonds of any single company are subject to a multitude of forces and therefore are not suitable as long-term investments for savings banks.
2. There is no statistical evidence regarding the holdings of savings banks of securities of industrial companies, but, due to legislative prohibitions, these holdings may be considered as a minimum.
3. Industrial companies as a group are harmed by a period of falling prices, since the inadequate or unequal distribution of income causes greater borrowing and larger interest costs. Industrial bond yields should increase in periods of falling prices.
4. The legislation regarding industrial company bonds as a part of savings bank portfolios has been quite judicious and adequate. The restrictions are very stringent in most cases.

CHAPTER VI.

SAVINGS BANKS AND STOCK INVESTMENTS.

Five states have enacted specific legislation permitting savings banks to hold the stocks of other banks, usually with rigid restrictions. The place of bank stocks and the stock of the Federal Reserve System in the portfolios of such banks is one of importance. Since commercial banks are a formal part of the credit structure of the United States, the securities of these institutions are to be regarded as having a definite place in any bank's portfolio. This fact has been realized in most state legislation regarding savings bank investments.

The position of bank stocks is similar to that of any stock in a period of falling prices. The amount of profits decline, the yield rises or may even fall dependent upon the dividend policy pursued, the market price falls. Although the legal provisions usually make an investment in the stock of a small bank impossible, even large banks, the stocks of which may be held, are susceptible to financial difficulties during a period of falling prices. In case of financial difficulties the market price and the yield on bank stocks may both be affected in a very short time. The principle of double liability in case of closing may work a hardship upon the investing savings banks, but the risk is small in the case of the banks designated in the statutes as qualifying institutions.

None of the states which publish lists of legal investments for savings banks furnish a list of banks which fulfill the qualifications of the law. Therefore, an approximation must be made for bank stock yields, about 10% on capital stock outstanding[1]. In this view of the high yield, the limitation placed upon investments in bank stocks which is made in the statutes appears judicious since it prevents a concentration of funds in the financial system alone at the expense of the productive agencies of the country.

The reports of the Comptroller of the Currency make no distinction between the stocks of banks, of the Federal Reserve System, or of any of the various industrial corporations. The division which provides a tabulation of the stock holdings by savings banks was not made until 1929, giving only meager statistics for the period. As only three states recognize stock investments in industrial companies as legal investments for savings banks, the study is limited in scope.

The certified list of qualifying securities of Maine contains no company whose stock may be held by savings banks. That of New Hampshire lists 24 issues of 17 companies, 11 of which issues are common stocks. These companies are all rail-

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1. The Comptroller of the Currency's report for 1932 shows that all New England banks paid an equivalent of 10.29% on capital stock in the year ended June 30, 1932, the rate for all banks in the United States being 10.78% for the same period.

road operating corporations, and the yield on their stocks is adequately given by the index of return on this type of stock shown in Table XXIV. The statutes of Rhode Island are similar to those of New Hampshire and the same companies would doubtless qualify.

New Hampshire's list of qualifying public service company stocks shows 57 companies represented, all by stocks of senior preference, i.e., stocks which have a prior lien upon income after all fixed charges have been paid. Three issues are common to the index and list of the state. Since the index given in Table XXIV for public service stocks shows a yield somewhat lower than the return on the preferred stocks in the approved list.

Evidence on the holdings of the savings banks can be obtained by the records of the individual states. New Hampshire's amount of railroad and utilities stocks remained somewhat constant for 1929 and 1930, but doubled in 1931 according to the data given in Table XXV. The important characteristic of securities of these types, i.e., rails and public service, is that the issuing companies are benefitted by periods of falling prices so long as business conditions do not change too greatly. Their charges remain steady, but expenses fall off. The railroads were hampered by the labor factor but the hope of a settlement of the wage question kept the place of high-class rails among the stocks selling near par. Utilities, neverthe-

TABLE XXIV. Holdings of Stocks by Savings Banks in 15 Selected States, with Index of Yield on Railroad and Public Service Stocks, 1929-1931.

Year	Holdings (000's)	Percent of Investments	Yield R. R.	Yield P. S.
1929	$ 79,147	3.7%	4.52%	3.10%
1930	90,021	4.1	5.48	4.69
1931	113,055	4.7	8.35	7.80

Sources: Annual Reports of the Comptroller of the Currency, 1929-1931.
Standard Statistics Bulletin. Base Book, Jan. 1932. v. 63, no. 7, sec. 3 and supplements.

TABLE XXV. Stock Holdings by 50 New Hampshire Savings Banks, 1929-1931.

Year	Holdings (000's)	Percent of Investments
1929	$ 8,831	4.1%
1930	9,556	4.7
1931	19,139	9.4

Source: Annual Reports of the Comptroller of the Currency, 1929-1931.

less, have shown strength throughout the whole period of falling prices, declining in price through sympathy with the market, but proportionately increasing the yield. The benefit of New Hampshire legislation is seen in the record of the years 1929-1931 and offers a model for other states.

Industrial stocks are too greatly affected by falling prices to be included in the portfolios of savings banks, the yield being contingent upon earnings which are usually absent in such a period. This holds especially for companies which are engaged in primary production, the recovery of raw materials, since the market price of the product falls off before economies can be effected in the processes of production. The basic industrial stocks are not fitted, therefore, to be a part of the investments of savings banks and the legislators acted wisely in omitting them from consideration. The fortitude of the solons must have been exceptional to have withstood the pressure of the period 1925-1929, when industrial stocks seemed the best investment available.

Bank stocks react in a fashion somewhat similar to industrials, since the collapse of the credit structure at the end of a period of falling prices makes the lending of funds difficult and payments of dividends from earning hazardous.

The conclusions from the study of stocks are:

1. The provisions for bank stocks is sound in theory and also in practice except at the end of a period of falling prices, a short-run tendency.

2. The provision for investment in stocks of high-grade railroads and public utilities (senior preferences only) offers a cushion in a period of falling prices and is of value for savings banks.
3. Industrial stocks have no place in portfolios of savings banks, since the securities are liable to too great fluctuations in a period of falling prices.

CHAPTER VII.

CONCLUSION.

The investments of savings banks made under the provisions of the individual states which regulate such purchases have shown definite trends within the period 1922-1931. These trends may furnish some light upon the difficulties in which banks found themselves during the period of financial panic in 1931 and succeeding years. The savings banks, themselves, were not immune to failures, but as a group they showed a strength somewhat greater than that of commercial banks during the same period.

Savings banks are institutions which have as their chief aim the collection of deposits, the greater proportion of which are turned into evidences of capital or the greater instruments of production. As such, savings banks have no means of extending credit in the sense of creating new means of payment. They must rely upon the accumulation of funds by individuals who then decide to allow the bank to use these funds, receiving in return a definite rate of interest. This rate of return must be sufficient to induce the savings to be placed in the banks where it will be available on a comparatively short demand. The average rate of interest paid by mutual savings banks, i.e., banks which divide profits from operation among depositors, was about 4% annually, while that for stock banks, i.e., those paying profits to stockholders, was approximately 3.75% for the period 1922-1931.

Once the banks have received the savings of individuals, they are pressed to find a source of income to pay the interest charges and the costs of operation of the banks. The moneys, therefore, must be reloaned to productive agencies in order to earn an income. The methods of investing these deposited funds constitute the subject matter of this study, special emphasis being placed upon security investments. Banks must also provide for a market for their investments in case of a demand for repayment by the depositors, a contingency which demand a definite program of investment which secures for banks an income sufficient to meet requirements of yield, safety, and liquidity. Because of the character of savings banks, the concern for public weal which rests in their essential structure, the state has assumed supervisory powers over the affairs of the banks and has laid down many definite rules regarding procedure. Among the statutes are laws regulating the investment of funds in securities of various types. These securities are divided into evidences of obligation and evidences of ownership, into bonds and mortgages and into stocks. A different set of conditions results from the ownership of each type: the bonds and mortgages, secured by a definite pledge of property and definite obligation of a company, being a safer investment than stocks which are merely a sign of ownership and a claim to a share of profits if and when they are declared.and distributed.

Banks recognize, as do state legislatures, that the institution of private property is a <u>sine</u> <u>qua</u> <u>non</u> to the capitalistic system of production. Mortgages, therefore, form the cornerstone of the assets of a savings bank, approximately one-half of all commitments of banks consisting of mortgages. Mortgages, however, are considered as non-liquid assets, since they are not readily liquidated for the sum loaned without appreciable loss. The securities investments are considered as secondary assets, i.e., those readily convertible into primary assets, cash or bank balances, upon short notice without great loss of principal.

The character of the trend of wholesale commodity prices from 1922 to 1931 was distinctly down. This tendency had definite effects upon the earnings of various companies and affected the position of security investments in those companies. The change in commodity prices affected the prices of fixed incomes such as are received from bonds and therefore also the yields upon these investments.

The position of all governmental bonds, including those of states, counties, and municipalities, during a period of falling prices depends upon the taxation policy of the governmental unit. Usually the state is unable to reach the disproportionate shares of income and must content itself with smaller revenue. This places the bond issues of these governmental institutions in an unfavorable position.

The question of decreased income also affects all industrial securities and indirectly the stocks of banks in a period of falling prices. The reduced income does not afford a sufficient margin of safety and the yields of these securities must rise, showing the assumption of greater risks.

The bonds and stocks of railroad and public service companies are benefited by falling prices, since costs decrease while revenues remain somewhat the same. The yields on these securities, therefore, generally tends to decrease during the periods of falling prices.

When correlated with the trend of commodity prices, the indexes of securities show no relation of bond yields and prices. The individual classes of bond yields, when correlated with the price index, show a possible but questionable relation for government, state, and municipal, and public service company bonds for the period 1922-1931. During the three years, 1929-1931, the stocks of service companies showed a definitely negative correlation.

The trend of bond yields in common with the yields on all forms of indebtedness was downward throughout most of the period. The cause of this trend was two-fold. It resulted from the decreased net income of governments and industrial companies, and from the increased net income of railroad and public service corporations. The second cause was the demand for securities by savings banks and other financial institutions during the period, the prices of securities rising and yields conversely falling. The truth of this last statement is evidenced by the rise in yields in 1931 when the financial institutions were forced to liquidate large amount of investments, a factor which helped to depress the bond market. Since the decreasing bond yields made it difficult to find an income satisfactory to interest requirements of depositors, the factor of yields formed one basis of selection of investments, liquidity being the second. In spite of the necessity of obtaining securities offering both yield and liquidity, banks were forced to follow the legislation given by legal institutions.

An examination of the laws of the various states under which savings banks operated during the period 1922-1931 was made. The restrictions of these laws were tested by the application of investment theory and the practice of the banks. The analysis of the laws showed that in general the legislators showed some knowledge of investment theory. There were some states, however, that still had provisions which could easily have allowed poor banking policy.

Due to the inability to derive satisfactory conclusions from a study of all the statistical data available, a sample of fifteen states, covering about one-half of the total deposits of savings banks, was taken. This can be considered as fairly representative of the whole number of banks for the purposes of facilitating conclusions. The proof of this assumption is given in the Appendix.

Five types of bonds were studied as investments for savings banks, (a) United States government securities, (b) state, county, and municipal bonds, (c) railroad and other public service corporation bonds, (d) stocks of corporations, (e) foreign government bonds. Each was found to have a place in the portfolio of savings banks investments, depending upon such factors as the size of the bank, legal restrictions on investments of funds, amount of deposits to be so devoted, etc.

Actually, the total investments of savings banks for the fifteen states increased from $1,588,777,000 in 1922 to the 1931 total of $2,385,232,000, the ratio to total deposits remaining about 50%. The various divisions of this total amount of investment securities fluctuated during the ten years under discussion. Government bond holdings decreased from $498,835,000 or 29.4% of the total in 1922 to $246,446,000 or 5.3% of the total in 1931. State and municipal bond investments increased from $227,266,000, 14.3% of the total, in 1922, to $499,455,000, 20.9% of the total, in 1931. However, to discount the fluctuations due to a change from government to municipal bonds in Massachusetts in 1927, the two groups were added and a joint conclusion reached. In 1921, the savings banks held $694,447,000 of government and municipal bonds, 43.7% of the total investment portfolios, while in 1931 the total was $635,348,000, only 26.7% of the total investment. The conclusion drawn was that an insufficient yield obliged savings banks to keep only a minimum amount of government and municipal bonds as was consistent with liquidity.

Railroad company bonds in 1922 accounted for $614,005,000 of the total investments of savings banks, 38.7% of the total, and in 1928, $701,304,000, or 34.6% of the whole. Public service company bonds held by savings banks in 1922 totaled $143,030,000 or 9.0% of the total investments, and in 1928, $480,064,000 or 23.7% of the total. Due to the bulking of these groups by the Comptroller of Currency in his Annual Reports of 1929 and the succeeding years, the two groups were added for the whole period. In 1922, $756,035,000 or 47.6% of the total investments were made in bonds of railroads and public service companies. In 1931, this had grown to $1,377,602,000 or 57.5% of the total investments. The trend of railroad bond holdings was seen to be slightly downward, while the holdings of public utility company securities increased due to the yields available and the popularity of these issues generally.

Foreign bond holdings by savings banks were not reported before 1929, nor were the holdings of stocks. In 1929, foreign bond holdings were $66,171,000, 3.1% of the total. In 1931 the percentage was the same, the total $73,508,000. The reason for the constant percentage of holdings appeared to be the stringency of the laws and the undesireability of most foreign issues. Stocks were held in 1929 to the amount of $79,147,000, 3.7% of the total. In 1931 the stock holdings had grown to

$113,055,000, or 4.7% of the total. Even though the yields were extremely attractive, the doubtful liquidity and safety of stocks in a period of falling prices worked against these holdings. The problem of investment remains and will remain the task of the individual banker, however, since laws can only be used as guideposts.

The banker must choose the individual issues of securities in which he wishes to invest. He must ever be alert to any change in the structure of any of the companies whose securities he owns, which would endanger his investment. The observance of the principles of sound investment policy by bankers is evidenced by the actual application of funds from 1922 to 1931, the chief aim being liquidity and safety at the expense of yield. It is doubtful that any savings bank closing was caused or even hastened by non-liquidity of investments.

The tendencies of operation of savings bank investment portfolios, if entended to other states, would seem to point to a number of very strong savings banks, probably of the mutual type, which would afford a bulwark of financial, industrial, and social security.

APPENDIX.

The reports of the Comptroller of the Currency give statistics concerning the various assets and liabilities of stock and mutual savings banks. The investments of the banks located in the various states are divided into groups of (a) United States government securities, (b) state, county, and municipal bonds, (c) railroad and other public service corporation bonds, (d) stock of Federal Reserve banks and other corporations, (e) foreign securities including foreign government bonds, and (f) other bonds, notes, warrants, etc. Some states, however, do not classify the holdings of the banks, preferring to bulk the total as miscellaneous securities under the last named division. As a result the figures given for the totals of all states are not accurate as evidences of absolute value. The provision for an accurate and adequate sample, therefore, is necessary in order to ascertain the absolute values to a fairly accurate degree. Upon examination, fifteen of the twenty-seven states were found to have divided their investment totals into the various sections for at least eight of the years considered. These states were Connecticut, Deleware, District of Columbia, Florida, Maine, Maryland, Massachusetts, Nebraska, New Hampshire, New Jersey, Pennsylvania, Rhode Island, Utah, Vermont, and Wisconsin. The total number of banks in the selected states was approximately one-third of the total in the United States while the deposits were almost 40% of the total.

This sample is believed the most accurate and adequate readily available. The statistics for New York which can claim another 40% of the total deposits and about 10% of the banks[1], and Iowa which has 30% of the banks and about 2% of the total deposits are incomplete since a division is not made. The inclusion of the statistics for these states would overweigh the miscellaneous division of investments. It is therefore believed that the same trend can be observed without the inclusion of these states.

The accompanying sets of tables will give the full comparison of all items, the stock and mutual banks having been added together in all cases. All the figures in the tables of deposits, mortgages, investments, and various types of investments are given in thousands of dollars. The figures are all given as in the annual reports of the Comptroller of the Currency for the years 1922 to 1931, and represent the holdings of the banks reporting on June 30 of the years mentioned.

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1. New York sibdivided its investments in 1924, but this has been disregarded and the total placed in the miscellaneous investment column as a unit.

TABLE A. Deposits of Savings Banks in 27 States and in 17 Selected States, 1922-1931.

Year	*Total 27 States	*Total 15 States	Percent of Total
1922	$ 7,181,248	$ 2,839,770	39.5%
1923	7,897,909	3,083,731	39.1
1924	8,439,855	3,260,700	38.7
1925	9,065,181	3,452,483	38.1
1926	9,599,118	3,644,727	38.0
1927	9,738,902	3,866,483	39.7
1928	10,234,041	4,148,956	40.5
1929	10,133,354	4,189,034	41.2
1930	10,466,110	4,383,381	41.9
1931	11,116,132	4,592,328	41.2

* In thousands of dollars.

Source: Annual Reports of the Comptroller of the Currency, 1922-1931.

TABLE B. Savings Banks in 27 States and in 17 Selected States, 1922-1931.

Year	Total 27 States	Total 15 States	Percent of Total
1922	1,685	491	29.1%
1923	1,647	499	30.2
1924	1,603	490	30.6
1925	1,583	504	31.8
1926	1,524	500	32.7
1927	1,461	495	33.8
1928	1,407	490	34.8
1929	1,358	482	35.5
1930	1,314	473	36.0
1931	1,260	470	37.2

Source: Annual Reports of the Comptroller of the Currency, 1922-1931.

TABLE C. Mortgages Held by Savings Banks in 27 States and in 15 Selected States, with comparative percentages of total deposits, 1922-1931.

Year	Total 27 States (000's)	Percent of Deposits	Total 15 States (000's)	Percent of Deposits	Percent of Total
1922	$ 1,522,132	21.2%	$ 924,645	32.5%	60.5%
1923	3,601,544	38.8	1,037,388	33.6	28.8
1924	2,218,285	26.2	234,783	7.2	10.6
1925	387,499	4.3	381,999	11.1	98.6
1926	721,069	7.5	716,883	19.6	99.3
1927	2,659,230	27.3	1,854,935	48.0	69.9
1928	2,744,002	26.8	2,020,684	48.8	73.5
1929	5,880,590	58.0	2,035,744	48.7	34.6
1930	6,033,745	58.0	2,180,066	49.8	36.2
1931	5,821,274	52.0	2,200,515	48.1	38.9

Source: Annual Reports of the Comptroller of the Currency, 1922-1931.

TABLE D. Total Investments in Securities Held by Savings Banks in 27 States and in 15 Selected States, with comparative ratios to total deposits, 1922-1931.

Year	Total 27 States (000's)	Percent of Deposits	Total 15 States (000's)	Percent of Deposits	Percent of Total
1922	$ 3,332,980	46.5%	$ 1,588,777	56.3%	47.7%
1923	3,556,949	45.0	1,668,623	54.1	53.4
1924	3,584,786	43.0	1,706,270	52.3	47.5
1925	3,780,996	41.7	1,760,122	51.1	46.6
1926	3,910,202	40.7	1,794,399	49.4	45.9
1927	3,943,153	40.6	1,885,530	48.8	47.8
1928	4,178,578	40.8	2,023,905	48.9	49.5
1929	4,158,032	41.1	2,129,818	50.9	44.5
1930	4,231,350	40.9	2,183,774	49.9	51.3
1931	4,841,081	43.5	2,385,232	52.1	49.4

Spurce: Annual Reports of the Comptroller of the Currency, 1922-1931.

TABLE E. Holdings of Government Bonds by Savings Banks in 27 States and in 15 Selected States, with comparative ratios to total investments, 1922-1931.

Year	Total 27 States (000's)	Percent of Investments	Total 15 States (000's)	Percent of Investments	Percent of Total
1922	$ 498,835	14.9%	$ 467,081	29.4%	93.8%
1923	670,315	18.7	522,834	31.3	77.8
1924	738,479	20.6	581,690	34.1	77.7
1925	765,282	20.2	582,842	33.0	76.0
1926	677,006	17.3	480,059	26.8	71.0
1927	329,262	9.3	206,286	11.0	62.7
1928	326,206	7.8	181,443	9.0	55.5
1929	279,155	6.7	155,346	7.3	55.8
1930	231,241	5.4	128,046	5.9	55.3
1931	246,446	6.1	126,093	5.3	51.3

Source: Annual Reports of the Comptroller of the Currency, 1922-1931.

TABLE F. Holdings of State and Municipal Bonds by Savings Banks in 27 States and in 15 Selected States, with comparative ratios to total investments, 1922-1931.

Year	Total 27 States (000's)	Percent of Investments	Total 15 States (000's)	Percent of Investments	Percent of Total
1922	$ 257,488	7.7%	$ 227,266	14.3%	88.5%
1923	215,670	6.0	195,859	11.8	91.0
1924	168,992	4.7	155,056	9.1	92.0
1925	161,734	4.3	150,751	8.5	92.5
1926	229,938	5.8	217,028	12.1	94.5
1927	480,839	12.2	459,302	24.4	95.5
1928	486,984	11.6	470,041	23.2	98.5
1929	514,781	12.3	501,255	23.5	97.5
1930	480,168	11.3	466,952	21.2	97.3
1931	517,417	10.7	499,455	20.9	96.5

Source: Annual Reports of the Comptroller of the Currency, 1922-1931.

TABLE G. Holdings of Government, State, and Municipal Bonds by Savings Banks in 27 States and in 15 Selected States, with comparative ratios to total investments, 1922-1931.

Year	Total 27 States (000's)	Percent of Investments	Total 15 States (000's)	Percent of Investments	Percent of Total
1922	$ 756,323	22.6%	$ 694,447	43.7%	91.7%
1923	885,985	24.7	718,693	41.6	81.1
1924	907,471	23.3	735,646	42.1	81.2
1925	927,016	22.2	731,573	40.8	78.0
1926	907,044	20.6	697,087	40.8	71.8
1927	810,101	18.5	656,588	34.8	82.1
1928	813,190	19.4	651,484	32.4	78.4
1929	793,936	19.0	656,601	30.8	82.5
1930	711,409	21.8	595,098	27.1	89.8
1931	763,863	20.1	635,348	26.7	82.1

Source: Annual Reports of the Comptroller of the Currency, 1922-1931.

TABLE H. Holdings of Railroad and Public Service Bonds by Savings Banks in 27 States and in 15 Selected States, with comparative ratios to total investments, 1922-1931.

Year	Total 27 States (000's)	Percent of Investments	Total 15 States (000's)	Percent of Investments	Percent of Total
1922	$ 760,411	22.8%	$ 756,035	47.6%	99.6%
1923	758,034	21.3	749,775	44.9	98.9
1924	852,633	23.7	851,432	49.9	98.7
1925	887,176	23.5	886,708	50.4	99.8
1926	935,342	23.9	934,999	52.1	100.0
1927	1,043,961	26.5	1,038,924	54.9	100.0
1928	1,184,723	28.3	1,181,488	58.3	99.8
1929	1,187,874	28.5	1,187,822	55.7	100.0
1930	1,258,721	20.2	1,257,973	57.5	100.0
1931	1,377,647	28.4	1,377,602	57.5	100.0

Source: Annual Reports of the Comptroller of the Currency, 1922-1931.

TABLE I. Holdings of Railroad Bonds by Savings Banks in 27 States and in 15 Selected States, with comparative ratios to total investments, 1922-1928.

Year	Total 27 States (000's)	Percent of Investments	Total 15 States (000's)	Percent of Investments	Percent of Total
1922	$ 616,741	18.5%	$ 614,005	38.7%	99.4%
1923	602,487	16.9	598,970	35.9	97.5
1924	632,830	17.6	621,497	36.4	98.4
1925	646,079	17.1	646,078	36.7	100.0
1926	656,813	16.8	656,684	37.1	99.9
1927	665,982	16.9	665,982	35.3	100.0
1928	701,314	16.8	701,304	34.6	100.0

Source: Annual Reports of the Comptroller of the Currency, 1922-1928.

TABLE J. Holdings of Public Service Bonds by Savings Banks in 27 States and in 15 Selected States, with comparative ratios to total investments, 1922-1928.

Year	Total 27 States (000's)	Percent of Investments	Total 15 States (000's)	Percent of Investments	Percent of Total
1922	$ 143,670	4.3%	$ 143,030	9.0%	99.8%
1923	155,547	4.4	150,895	9.0	97.0
1924	219,803	6.1	219,435	12.7	99.7
1925	241,097	6.4	240,630	13.7	99.7
1926	278,529	7.1	278,315	15.5	99.9
1927	377,979	9.6	377,971	20.2	100.0
1928	482,409	11.5	480,064	23.7	99.6

Source: Annual Reports of the Comptroller of the Currency, 1922-1928.

TABLE K. Holdings of Stocks by Savings Banks in 27 States and in 15 Selected States, with comparative ratios to total investments, 1929-1931.

Year	Total 27 States (000's)	Percent of Investments	Total 15 States (000's)	Percent of Investments	Percent of Total
1929	$ 79,360	1.9%	$ 79,147	3.7%	99.9%
1930	90,272	2.1	90,021	4.1	99.9
1931	113,400	2.3	113,055	4.7	99.8

TABLE L. Holdings of Foreign Securities by Savings Banks in 27 States and in 15 Selected States, with comparative ratios to total investments, 1929-1931.

Year	Total 27 States (000's)	Percent of Investments	Total 15 States (000's)	Percent of Investments	Percent of Total
1929	$ 66,171	1.6%	$ 66,171	3.1%	100.0%
1930	70,699	1.7	70,671	3.2	99.9
1931	73,543	1.5	73,508	3.1	99.9

TABLE M. Holdings of Miscellaneous Securities by Savings Banks in 27 States and in 15 Selected States, with comparative ratios to total investments, 1922-1931.

Year	Total 27 States (000's)	Percent of Investments	Total 15 States (000's)	Percent of Investments	Percent of Total
1922	$ 1,816,246	54.5%	$ 137,395	8.7%	7.6%
1923	1,912,930	53.8	200,155	12.0	10.4
1924	1,836,005	51.2	134,602	7.9	7.3
1925	1,966,804	52.0	141,921	8.1	7.2
1926	2,067,091	52.8	162,313	9.1	7.9
1927	2,089,091	53.0	175,079	9.3	8.4
1928	2,181,665	52.2	201,041	9.9	9.2
1929	2,030,691	48.7	144,052	6.9	7.1
1930	2,120,219	49.8	167,656	7.7	7.9
1931	2,512,628	51.9	213,949	9.0	9.2

Sources: Annual Reports of the Comptroller of the Currency, 1922-1931.

BIBLIOGRAPHIES.

1. Books.

Adams, Arthur B. Economics of Business Cycles. New York, McGraw-Hill, 1925.
A short resume of various theories of the business cycle.

Badger, Ralph Eastman. Investment Principles and Practice. New York, Prentice-Hall, 1928.
A treatise on investments of all types and the relation of investments to other economic institutions.

Bennett, Frank P., Jr. The Story of Mutual Savings Banks. Boston, F. P. Bennett & Co., 1924.
Course of lectures given before the Boston Chapter of the American Institute of Banking in the autumn of 1923.

Bryant, H. C. "General Principles for Investing Savings Bank Funds". American Institute of Banking Conferences, 1925.
Banks should be given latitude within conservative limits for the investment of funds.

Burrell, O. K. Behavior of Bond Prices in Major Business Cycles. Eugene, Ore., University of Oregon, 1932.
The relation of bonds to depressions in the United States since 1834.

Cassel, Gustav. Theory of Social Economy. New York, Harcourt, 1923.
A treatise on the theory of economics.

Day, R. L. & Co. Legally Authorized Investments for Savings Banks and Trust Funds in the State of New York as of May 10, 1932. Boston, Author, 1932.
Reprints of New York statutes and a copy of the official list of legal bonds.

Douglas, Paul H. Real Wages in the United States, 1890-1926. Boston, Houghton Mifflin, 1930.
An attempt to measure the material progress of American labor by means of an index of real wages.

Dunbar, Charles F. Theory and History of Banking. New York, Putnam, 1929. (5th ed.)
A short treatise on the theory of banking.

Fisher, Irving. Theory of Interest. New York, Harper, 1929.
Revision and restatement of his "Nature and Theory of Capital and interest".

Fisher, Irving, and Brown, H. G. Purchasing Power of Money. New York, Macmillan, 1911.
The quantity theory of money and its relation to an attempt to stabilize the purchasing power of the monetary unit.

Hale, Albert. Savings Bank Investments. Boston, Author, 1908.
Laws and qualifying issues listed without comment.

Halsey, N. W. & Co., comp. Statutes of the Various States Governing Savings Bank Investments in Bonds. New York, Author, 1906.
Collection of existent statutes.

Hansen, Alvin H. Economic Stabilization in an Unbalanced World. New York, Harcourt, 1932.
A scientific analysis of the causes and remedies for economic instability.

Keyes, Emerson Willard. A History of Savings Banks in the United States. New York, B. Rhodes, 1876-1878.
History of the savings bank movement from 1816 to 1877.

Kniffen, William H. Commercial Banking. New York, McGraw-Hill, 1923. 2 vol.
Introductory discussion of functions and operations of various types of banks.

Kniffen, William Henry. The Savings Bank and its Practical Work. New York, Bankers publishing co., 1912.
History, management, and methods of operation of mutual savings banks.

Manning, James Hilton. Century of American Savings Banks. New York, Black, 1917. 2 vol.
Commemmoration of centenary of savings banks in America, dealing principally with the New York development of the system.

Marshall, Alfred. Official Papers. New York, Macmillan, 1926.
Include his reports and answers to the committees on Gold and Silver, Indian Currency, etc.

Mitchell, Wesley Clair. Business Cycles. New York, National Bureau of Economic Research, 1927.
Treatise on problem of business cycle from statistical point of view.

National Industrial Conference Board. Wages in the United States, 1914-1930. New York, Author, 1931. (Also supplement for 1931).

Patterson, Ernest Minor. Tests of Foreign Government Bonds. New York, Payson & Clark, 1928.
Elementary tests of public credit and foreign government security values.

Robinson, Edward Levi. 1816-1916, One Hundred Years of Savings Banking. New York, Savings bank section, American bankers association, 1917.
Address before centenary celebration of American savings banks, Kansas City, Mo., Sept. 26, 1916.

Sutcliffe, William G. and Bond, Lindley A. Savings Banks and Savings Department Management. New York, Harper, 1930.
Study of practical operation of savings banks and the problems of management involved.

United States. Comptroller of the Currency. Annual Reports. Washington, Government Printing Office, 1922-1931.
Statistics for all types of banks and their operations.

United States. Department of Commerce. Commerce Yearbook, 1932. Compilation of statistics for various commercial operations.

Veit, Robert T. "The Bond Account as an Earning Factor". American Institute of Banking Conferences, 1925.
Purchase of investment bonds is a secondary function of banks, but can be a source of earning power through the proper trading of securities.

2. Laws.

California. Civil Code, 1931. Act 652 on Investments of Savings Banks.

Connecticut. Laws Relating to State Banks and Trust Companies, Savings Banks and Industrial Banks, Building and Loan Associations, Private Bankers and Small Loan Companies and to the Sale of Securities. 1931.

Connecticut. List of Bonds Which are Legal Investments for Savings Banks of Connecticut. 1932.

Florida. Banking and Trust Laws. 1930.

Indiana. Bank Laws of the State of Indiana. 1931.

Iowa. Banking Law. 1931.

Maine. Law Relating to Savings Bank Investments. n.d.

Maine. List of Securities Certified as Legal Investments for Maine Savings Banks Under Provisions of Paragraph XI, Section 27, chapter 57, Revised Statutes, 1930. 1932. Certificate 19.

Maryland. Laws Relating to State Banks, Trust Companies and Savings Institutions. 1931.

Massachusetts. List of Legal Investments for Savings Banks, etc. 1932. (With monthly revisions to Dec. 1932.)

Massachusetts. Massachusetts Laws Relating to Investments of Savings Banks. 1927.

Michigan. Laws Relating to Banking. 1932.

Michigan. Railroad Securities Legal for Michigan Savings Banks. 1931. (Also mimeographed list of Public Utility bonds.)

Minnesota. Compilation of Laws of Minnesota Relating to State Banks, Savings Banks and Trust Companies. 1927. (Also mimeographed list of eligible securities.)

Nevada. Compiled Laws, 1929. Article 655.

New Hampshire. Abstract of the Laws of New Hampshire Relating to Savings Banks, Trust Companies, Building and Loan Associations and State Banks. 1931.

New Hampshire. List of Legal Investments for Savings Banks, etc. 1932.

New Jersey. Laws of New Jersey Relating to Savings Banks, 1932.

New York. List of Securities Considered Legal Investments for Savings Banks. 1932.

New York. Savings Banks. 1932.

Ohio. Civil Code. 1927. Articles 710-139, 140, 111.

Oregon. General laws of 1925. Chap. 207, sec. 216.

Pennsylvania. Authorized Investments for Savings Banks. n.d.

Rhode Island. Banking Laws of Rhode Island. 1929.

United States. Compiled Statutes. n.d. Sec. 5136.

Utah. Session Laws, 1911.

Vermont. General Laws of the State of Vermont Relating to Banks. 1918. (With amendments to 1931, incl.)

Vermont. List of Railroad Bonds Legal Investments for Vermont State Banks. 1932.

Washington. Laws of Washington Relating to State Banks and Trust Companies, Mutual Savings Banks and Industrial Loan Companies.

Wisconsin. Statutes. 1923-4. chap. 222.

3. Periodicals.

Anderson, Benjamin M. Jr. "Bank Expansion Versus Savings". Chase Economic Bulletin. v. 8, July 25, 1928.
Growth of time deposits in recent years does not reflect true savings.

Anderson, Benjamin M., Jr. "Bank Money and the Capital Supply". Chase Economic Bulletin. v. 6, Nov. 8, 1926.
Bank expansion in U. S. since 1922 far exceeded that needed to finance war.

Anderson, Montgomery D. "Economicsof Business Fluctuations in United States, 1915-1925". American Economic Review. 17:230-272, June 1927.
Fluctuations result of failure of producers to adjust supply to demand. Trade fluctuations govern price level since war.

Bell, James Washington. "Recent Changes in the Character of Bank Liabilities and the Problem of Bank Reserves". American Economic Review. Supplement. 23:185-207, Mar. 1932.
Most apparent changes are failures and mergers due to lack of liquidity through errors of management and the methods of using resources. Character of deposits determines employment of resources.

Fisher, Irving. "Our Unstable Dollar and the So-called Business cycle". American Statistical Association Journal. 20: 179-202, Jun 1925.
Not the price level itself but the rate of rise and fall varies with the volume of trade with a definite lag which is unequal for various parts of trade. Volume of trade is probably seldom cyclical itself and is a composite of many elementary fluctuations.

Loucks, W. N. "Profit Margins as Business Forecasters". Annalist. Nov. 27, 1925, p. 669.
Not all crises are preceeded by an encroachment of material costs on selling prices which necessitates price readjustments as suggested by Mitchell. Analysis of relation of cost and selling prices should be a part of systems of forecasting.

McLanahan, Austin. "Stability the Investment Goal for Savings". American Bankers Association Journal. 23:314--, Oct. 1930.
Wide fluctuations in bonds over a long period of time must be kept in mind while making purchases.

Massachusetts & Maine Savings Bank Assn. "Committee on Investments Report". Savings Bank Journal. 11:42-45, Nov. 1930.
On Canadian bonds, foreign bonds, railroad bonds, public utility bonds, railroad bonds, and public utilities, mortgages, trading in bonds, effect of city ordinances on mortgage investments.

Mitchell, Waldo F. "Interest Cost and the Business Cycle". American Economic Review. 16:209-221, Jun. 1926.
Interest cost follows a cycle as evidenced by yields on bonds. It is an important part of total costs of doing business and is a major factor in determining the policies of lenders and borrowers. It indicates business conditions and is also a causal factor of prime importance in the business cycle.

National Association of Mutual Savings Banks. "Report of the Committee on Investments". Savings Bank Journal. 11: 131-138, June, 1930. Also:Ibid. 12:11-114, June, 1931, and 13:94-103, June, 1932.
Recommeddations on various types of investments and discussions on investment policies of mutual savings banks.

Oldham, John E. "Report of Public Service Corporation Committee". Investment Bankers Assn. of America Bulletin. 5:31-49, Oct. 18, 1916.
Suggestions on savings bank laws covering public utility bonds.

Sanders, H. W. "Bonds: Secondary Reserve or Earning Assets?" Burroughs Clearing House. p. 6, Dec. 1932.
Bonds failed as secondary assets when prices dropped in 1931. One reason is the competition among banks for deposits.

Snyder, Carl. "Influence of the Interest Rate on the Business Cycle". American Economic Review. 15:684-699, Dec. 1925. Interest cost of doing business is relatively unimportant factor in the business cycle.

Snyder, R. M. "Banks as Investors". Barron's. p. 5, Nov. 9, 1931. Drastic decline in security prices is a major cause of bank failures.

Spahr, Walter E. "Bank Failures in the United States". American Economic Review. Supplement. 23:208-, Mar. 1932. Failures not due to business recessions, but are contributory factor to unsound business conditions. Failures due to defects in structure which require correction.

Steiner, W. H. and Lasdon, Oscar. "Bank Bond Policy". Bankers Magazine. 125:605-612, Dec. 1932. Prime and second-grade bond issues do not follow parallel price movements. Factors influencing movements of various grades of securities should be watched. Doubtful securities make money rates of secondary importance, the effect of industrial activity being highly marked on the yields obtained.

Weidenhammer, Robert. "Faulty Investment of Corporate Savings". American Economic Review. 23:35-41, Mar. 1933. Effect of corporate savings on capital formation and the effect of unwise use of profits on the instability of capitalism.

The thesis "Savings Bank Investments, 1922-1931," written by Francis Joseph Calkins, has been accepted by the Graduate School of Loyola University with reference to form, and by the readers whose names appear below with reference to content. It is, therefore, accepted as a partial fulfilment of the requirements of the degree conferred.

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